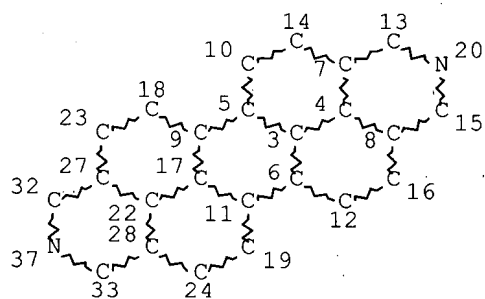


=> d que 126

L5 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

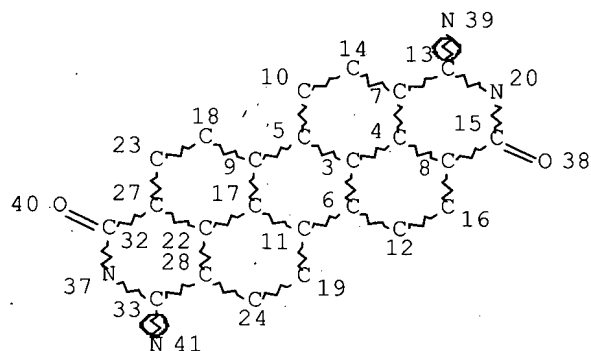
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE

L7 4129 SEA FILE=REGISTRY SSS FUL L5

L9 STR



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NSPEC IS R AT 41

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DEFAULT ECLEVEL IS LIMITED

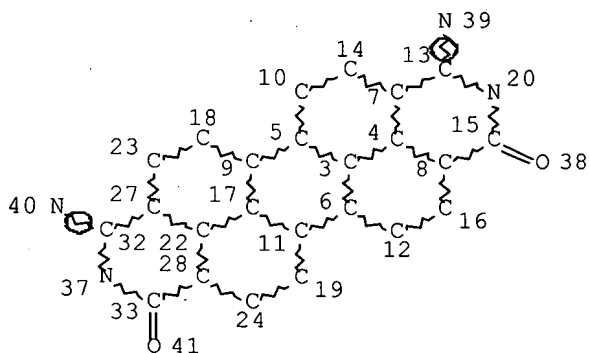
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RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE

L10 STR



NODE ATTRIBUTES:

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NSPEC      IS R      AT 39
NSPEC      IS R      AT 40
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

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GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS. 30

STEREO ATTRIBUTES: NONE

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L12      183 SEA FILE=REGISTRY SUB=L7 SSS FUL L9
L13      4 SEA FILE=REGISTRY SUB=L7 SSS SAM L10
L15      441 SEA FILE=HCAPLUS ABB=ON PLU=ON L12
L16      5 SEA FILE=HCAPLUS ABB=ON PLU=ON L13
L18      73 SEA FILE=HCAPLUS ABB=ON PLU=ON L15 AND DYE?
L19      60 SEA FILE=HCAPLUS ABB=ON PLU=ON L15 AND DYE?/SC,SX
L20      72445 SEA FILE=HCAPLUS ABB=ON PLU=ON (PIGMENTS+PFT,NT/CT OR
        "PIGMENTS, NONBIOLOGICAL"+PFT,NT/CT)
L21      21 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND ((L18 OR L19))
L22      25 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 OR L21
L23      30 SEA FILE=HCAPLUS ABB=ON PLU=ON L15 AND L20
L24      128 SEA FILE=HCAPLUS ABB=ON PLU=ON L15 AND (L20 OR PIGMENT?)

L25      18 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND DYE?
L26      46 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 OR L23 OR L25

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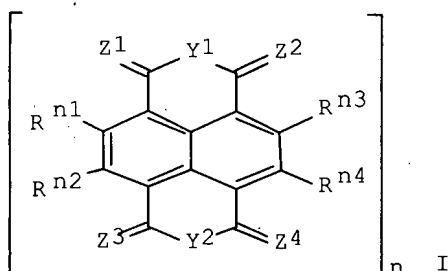
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L26 ANSWER 1 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:934131 HCAPLUS Full-text
DOCUMENT NUMBER: 147:312380
TITLE: Fluorinated arylene-tetracarboxylic acid
derivatives for use particularly as n-type
semiconductors
INVENTOR(S): Koenemann, Martin; Osswald, Peter; Schmidt,
Ruediger; Wuertthner, Frank
PATENT ASSIGNEE(S): Basf Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 110pp..
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007093643	A1	20070823	WO 2007-EP51532	20070216
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
PRIORITY APPLN. INFO.:			EP 2006-3266	A 20060217
			EP 2006-114427	A 20060523

ED Entered STN: 23 Aug 2007
 GI



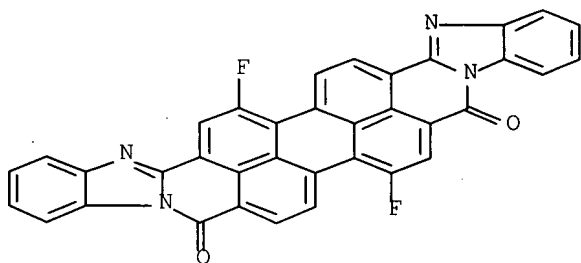
AB The present invention relates to fluorinated arylene-tetracarboxylic acid derivs., to a process for their preparation and to their use, especially as n-type semiconductors. The arylene-tetracarboxylic acid derivs. are of the general formula I, wherein n stands for 2, 3, or 4; at least one of the groups Rn1, Rn2, Rn3, and Rn4 stands for F, at least one addnl. member of the same groups is independently chosen from Cl and Br, and the remaining members of the same groups are H; Y1 stands for O or NRa, where Ra is H or an organic group; Y2 stands for O or NRb, where Rb is H or an organic group; Z1, Z2, Z3, and Z4 stand for O. With regard to the same general formula, when Y1 stands for NRa, Z1 and Z2 can stand for NRC, such that Ra and Rc together form a bridging group comprising 2 to 5 atoms between the flanking connections. Similarly, when Y2 stands for NRb, Z3 and Z4 can stand for NRd, such that Rb and Rd together form a bridging group comprising 2 to 5 atoms between the flanking connections. Such mols. find application in organic devices such as field effect transistors, solar cells, and LEDs.

IT 946612-33-5

(fluorinated arylene-tetracarboxylic acid derivs. for use particularly as n-type semiconductors)

RN 946612-33-5 HCAPLUS

CN INDEX NAME NOT YET ASSIGNED



CC 76-2 (Electric Phenomena)
 Section cross-reference(s): 28, 35, 37, 38, 52, 73

IT 147-14-8, Copper phthalocyanine 5521-31-3D, chloro- fluoro-derivs.
 187536-95-4D, fluoro derivs. 910041-01-9, 1,7-Difluoro-N,N'-bis(2,6-diisopropylphenyl)perylene-3,4,9,10-tetracarboxylic acid diimide
 910041-02-0, 1,7-Difluoro-N,N'-biscyclohexylperylene-3,4,9,10-tetracarboxylic acid diimide 910041-03-1, 1,7-Difluoro-N,N'-bis(n-octyl)perylene-3,4,9,10-tetracarboxylic acid diimide 910041-04-2,
 1,6,7,12-Tetrafluoro-N,N'-bis(2,6-diisopropylphenyl)perylene-3,4,9,10-tetracarboxylic acid diimide 946612-14-2, 1,6-Difluoro-N,N'-bis(2,6-diisopropylphenyl)perylene-3,4,9,10-tetracarboxylic acid diimide
 946612-15-3, 1,6-Difluoro-N,N'-biscyclohexylperylene-3,4,9,10-tetracarboxylic acid diimide 946612-16-4, 1,7-Difluoroperyleneperylene-3,4,9,10-tetracarboxylic acid dianhydride
 946612-17-5, 1,6-Difluoroperylene-3,4,9,10-tetracarboxylic acid dianhydride 946612-18-6 946612-30-2, 1,6,7,12-Tetrafluoro-3,4,9,10-tetracarboxylic acid diimide 946612-32-4, 1,6,7,12-Tetrafluoro-3,4,9,10-tetracarboxylic acid dianhydride **946612-33-5**
 946612-34-6 946612-35-7 946612-36-8 946612-37-9 946612-38-0
 946612-39-1, 1,7-Difluoro-N,N'-dimethylperylene-3,4,9,10-tetracarboxylic acid diimide 946612-40-4, 1,6-Difluoro-N,N'-dimethylperylene-3,4,9,10-tetracarboxylic acid diimide
 (fluorinated arylene-tetracarboxylic acid derivs. for use particularly as n-type semiconductors)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 2 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2007:610849 HCAPLUS Full-text
 DOCUMENT NUMBER: 147:32902
 TITLE: Image-recording color compositions, their manufacture and use as inks and method for recording
 INVENTOR(S): Yanagimoto, Hiromitsu; Saikatsu, Hiroaki; Kono, Kazuo; Nakamura, Michimori
 PATENT ASSIGNEE(S): Dainichiseika Color and Chemical Mfg. Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007138161	A	20070607	JP 2006-285680	20061020
PRIORITY APPLN. INFO.:			JP 2005-305594	A 20051020

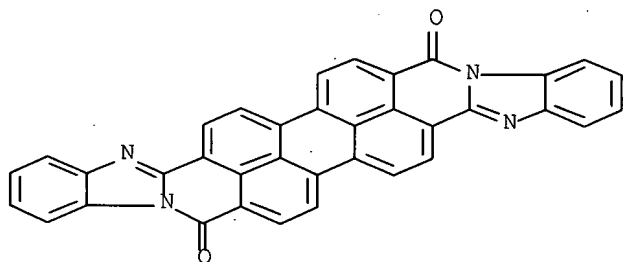
ED Entered STN: 07 Jun 2007

AB The compns. can give violet image, useful for writing and printing inks such as ink-jet printing inks, contain at least a violet colorant which bears perylenedicarbonyl residual group. Thus, sulfonating isodibenzanthrone gave a violet colorant for use in an ink composition useful for color ink sets.

IT **55034-79-2DP**, sulfonated
(violet pigment; image-recording color compns. containing violet colorant, their manufacture and use as inks and method for recording)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



CC 42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): 41

IT **Pigments, nonbiological**
(violet; image-recording color compns. containing violet colorant, their manufacture and use as inks and method for recording)

IT 6424-77-7DP, sulfonated **55034-79-2DP**, sulfonated
(violet pigment; image-recording color compns. containing violet colorant, their manufacture and use as inks and method for recording)

L26 ANSWER 3 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1025353 HCAPLUS Full-text

DOCUMENT NUMBER: 146:162781

TITLE: Electronic structure of the cis and trans isomers of benzimidazoperylene derivatives and their use as black pigments

AUTHOR(S): Mizuguchi, Jin; Shimo, Nobuya

CORPORATE SOURCE: Graduate School of Engineering, Yokohama National University, Yokohama, Japan

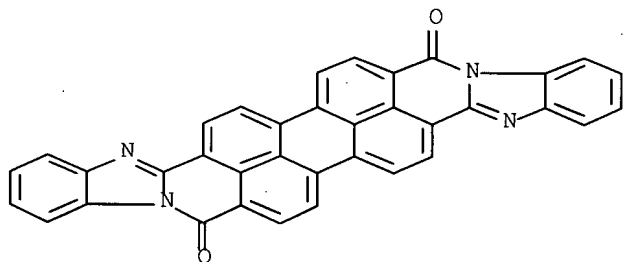
SOURCE: NIP21, Final Program and Proceedings [of the] International Conference on Digital Printing Technologies, 21st, Baltimore, MD, United States, Sept. 18-23, 2005 (2005), 32-35. Society for Imaging Science and Technology: Springfield, Va. CODEN: 69ILZX; ISBN: 0-89208-257-7

DOCUMENT TYPE: Conference

LANGUAGE: English

ED Entered STN: 03 Oct 2006

- AB Peryleneimide compds. are industrially important pigments in paint industries as well as in electronics areas. We have focused on the title compound (BIP) as a potential substitute for carbon black used widely as the black pigment. For this reason, electronic characterization of the cis and trans form of BIP has been carried out on the basis of the crystal structure and intermol. interactions. The black color is characterized by two absorption bands in the visible region in both isomers: the former, shorter wavelength band is due to individual mols. and the latter, longer-wavelength band appears as a result of excitonic interactions between transition dipoles. The stack mol.-pairs, among others, play the determinant role in the appearance of the longer-wavelength band to cover the whole visible region together with the mol. band.
- IT 55034-79-2
(electronic structure of the cis and trans isomers of benzimidazoperylene derivs. and their use as black pigments)
- RN 55034-79-2 HCAPLUS
- CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



- CC 22-9 (Physical Organic Chemistry)
Section cross-reference(s): 41, 42
- IT **Pigments, nonbiological**
(black; electronic structure of the cis and trans isomers of benzimidazoperylene derivs. and their use as black pigments)
- IT 55034-79-2 55034-81-6
(electronic structure of the cis and trans isomers of benzimidazoperylene derivs. and their use as black pigments)
- REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 4 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:713002 HCAPLUS Full-text

DOCUMENT NUMBER: 146:347325

TITLE: Electronic structure of the cis and trans isomers of benzimidazo perylene derivatives and their use as black pigments

AUTHOR(S): Mizuguchi, J.; Shimo, N.

CORPORATE SOURCE: Department of Applied Physics, Graduate School of Engineering, Yokohama National University, Yokohama, 240-8501, Japan

SOURCE: Journal of Imaging Science and Technology (2005), Volume Date 2006, 50(1), 115-121
CODEN: JIMTE6; ISSN: 1062-3701

PUBLISHER: Society for Imaging Science and Technology

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 23 Jul 2006

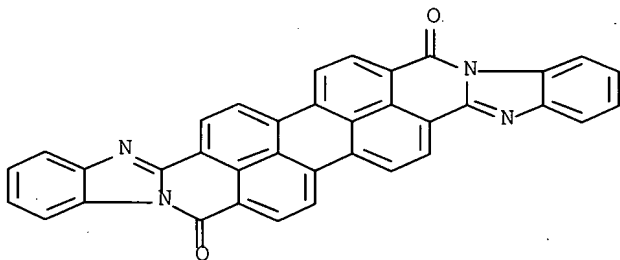
AB Peryleneimide compds. are industrially important pigments that exhibit a variety of shades from vivid red to black. We have focused on the title compound benzimidazo perylene (BIP) as a potential substitute for carbon black used widely as the black pigment in paint and imaging industries. In the present investigation, electronic characterization of the cis and trans form of BIP has been carried out on the basis of the crystal structure and intermol. interactions. The black color of BIP is characterized by two absorption bands in the visible region in both isomers: the shorter-wavelength band is due to individual mols. and the longer-wavelength band appears as a result of excitonic interactions between transition dipoles. Especially, the interaction along the mol. stack is attributed to the appearance of the longer-wavelength band to cover the whole visible region together with the mol. band. BIP is also found to be quite insol. in any organic solvents and extremely resistant to light and heat.

IT 55034-79-2

(electronic structure of cis and trans isomers of benzimidazo perylene derivs. and their use as black pigments)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 41, 42

IT Crystal structure

Electronic structure

Formation enthalpy

Molecular orbital

Pigments, nonbiological

Reflection spectra

UV and visible spectra

(electronic structure of cis and trans isomers of benzimidazo perylene derivs. and their use as black pigments)

IT 55034-79-2 55034-81-6

(electronic structure of cis and trans isomers of benzimidazo perylene derivs. and their use as black pigments)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 5 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:70973 HCAPLUS Full-text

DOCUMENT NUMBER: 145:314396

TITLE: 3,4,9,10-Perylenetetracarboxylic acid derivatives
and their photophysical properties

AUTHOR(S): Sapagovas, V. J.; Gaidelis, V.; Kovalevskij, V.;
Undzenas, A.

CORPORATE SOURCE: Department of Organic Chemistry, Vilnius
University, Vilnius, LT-03225, Lithuania

SOURCE: Dyes and Pigments (2006), 71(3), 178-187
CODEN: DYPIDX; ISSN: 0143-7208

PUBLISHER: Elsevier Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

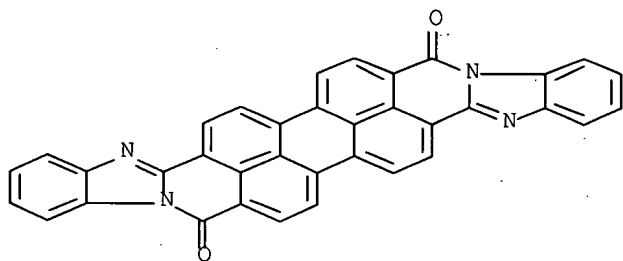
ED Entered STN: 25 Jan 2006

AB The aggregation in solns. of perylene pigments N,N'-diphenyl-, N,N'-dibenzyl-
and N,N'-diphenethyl-3,4,9,10-perylenetetracarboxylic acid diimides in
chloroform and dimethylsulfoxide solns. was studied. UV/Vis absorption spectra
at different concns. were recorded and it was shown that pigment mols.
underwent aggregation to form dimers at larger solution concns. Monomer and
dimer spectra of the pigments as well as aggregation degrees n and equilibrium
const. K were calculated employing concentration-dependent measurement data
of pigment solns. Single- and dual-layered photoreceptors employing 3,4,9,10-
perylenetetracarboxylic acid derivs. as charge-generating materials were
prepared and their xerog. characteristics were measured. Incorporating a
charge blocking layer into the dual-layered photoreceptors led to the enhanced
photosensitivity, but a faster dark decay of the initial surface potential as
well as slightly inferior homogeneity of the system was also observed

IT 55034-79-2
(photoreceptor; 3,4,9,10-perylenetetracarboxylic acid derivs. and
their photophys. properties)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-
d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



CC 22-9 (Physical Organic Chemistry)
Section cross-reference(s): 41, 73, 74

IT Molecular association
Pigments, nonbiological
UV and visible spectra
(3,4,9,10-perylenetetracarboxylic acid derivs. and their photophys.
properties)

IT 55034-79-2 65181-78-4, ELA 4021 73276-70-7, ELA 3011
174493-15-3, ST-917
(photoreceptor; 3,4,9,10-perylenetetracarboxylic acid derivs. and
their photophys. properties)

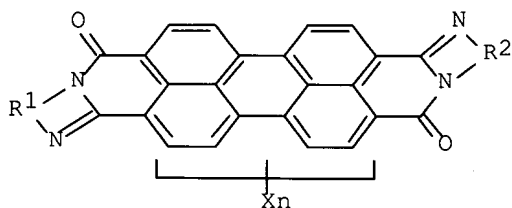
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR
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RE FORMAT

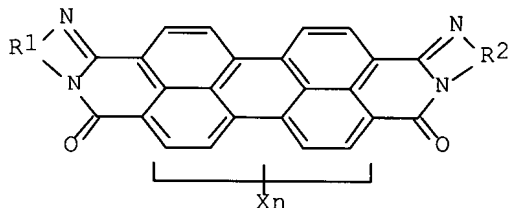
L26 ANSWER 6 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:902947 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:231383
 TITLE: Black perylene **pigments**.
 INVENTOR(S): Erk, Peter; Stohr, Andreas; Boehm, Arno; Kurtz,
 Walter; Mizuguchi, Jin; Sens, Benno
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 38 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005078023	A2	20050825	WO 2005-EP1139	20050204
WO 2005078023	A3	20051124		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 102004007382	A1	20050901	DE 2004-102004007382	20040211
DE 102004057876	A1	20060601	DE 2004-102004057876	20041130
EP 1716208	A2	20061102	EP 2005-701347	20050204
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS			
CN 1918239	A	20070221	CN 2005-80004522	20050204
JP 2007522297	T	20070809	JP 2006-552513	20050204
US 2007151478	A1	20070705	US 2006-587361	20060726
IN 2006CN03278	A	20070706	IN 2006-CN3278	20060911
PRIORITY APPLN. INFO.:			DE 2004-102004007382A	20040211
			DE 2004-102004057876A	20041130
			WO 2005-EP1139	W 20050204

ED Entered STN: 26 Aug 2005
 GI



I



II

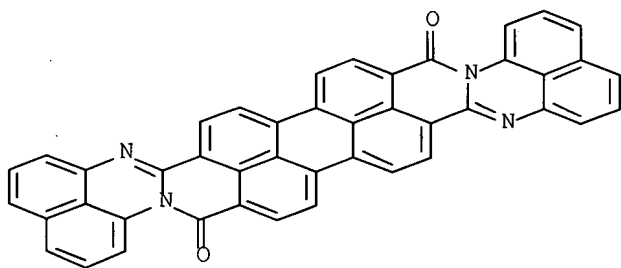
AB Black perylene **pigments** containing isomers (I) or (II) (R1 and R2 = optionally substituted with C1-12 alkyl, C1-6 alkoxy-, hydroxy, nitro- or halogen phenylene, naphthylene or pyridylene, X = halogen, n = 0 - 4) have a black number ≥ 210 in an alkyd/melamine baking enamel and are used for **dyeing** plastics. Thus, a **pigment** prepared by heating a melt containing 318 g of phenol, 78.4 g of dianhydride perylene-3,4:9,10-tetracarboxylic acid, 16.3 g of piperazine and 51.9 g of o-phenylenediamine 8 h at 180°, removing water and phenol, cooling to 130°, adding 350 g of methanol, filtrating and drying at 100° in vacuum gave 106 g of a raw **pigment**, which was milled with steel balls 10 h, solved in a mixture containing 250 g water and 250 g toluene and heated 5 h in autoclave at 150° resulting (after filtration, washing and drying at 100°) in a crystalline black **pigment** having particle size 40 - 300 nm.

IT 6859-32-1P 55034-79-2P

(black **pigment**; black perylene **pigments** for **dyeing** plastics)

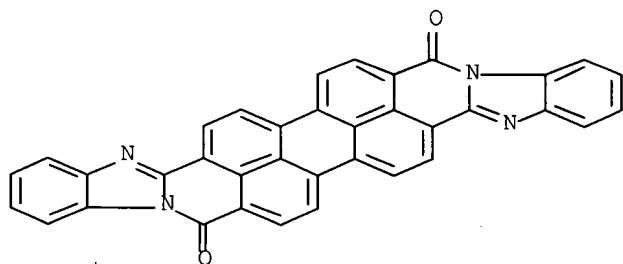
RN 6859-32-1 HCAPLUS

CN Anthra[2'',1'',9'':4,5,6;6'',5'',10'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-12,25-dione (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



- IC ICM C09B005-00
- CC 41-5 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
- ST black perylene **pigment dyeing** plastic;
perylene-tetracarboxylic acid piperazine phenylenediamine phenol
perylene **pigment** manuf
- IT **Pigments, nonbiological**
(black perylene **pigments** for **dyeing** plastics)
- IT Polyamides, miscellaneous
(black perylene **pigments** for **dyeing** plastics)
- IT Plastics, miscellaneous
(**dyeing**; black perylene **pigments** for **dyeing** plastics)
- IT **Dyeing**
(plastics; black perylene **pigments** for **dyeing** plastics)
- IT Polycarbonates, miscellaneous
(substrate; black perylene **pigments** for **dyeing** plastics)
- IT 98-11-3D, Benzenesulfonic acid, alkyl derivs.
(ABS, substrate; black perylene **pigments** for **dyeing** plastics)
- IT 9002-88-4, Polyethylene
(LD, substrate; black perylene **pigments** for **dyeing** plastics)
- IT 95-54-5, o-Phenylenediamine, reactions 108-95-2, Phenol, reactions
110-85-0, Piperazine, reactions 128-69-8, Perylene-3,4:9,10-tetracarboxylic acid dianhydride 479-27-6, 1,8-Diaminonaphthalene
(black perylene **pigments** for **dyeing** plastics)
- IT **6859-32-1P** 41635-87-4P **55034-79-2P** 55034-81-6P
(black **pigment**; black perylene **pigments** for **dyeing** plastics)
- IT 198-55-0DP, Perylene, derivs.
(**pigment**; black perylene **pigments** for **dyeing** plastics)
- IT 9003-07-0, Polypropylene 9003-56-9, ABS 9011-14-7, PMMA
25038-54-4, PA 6, miscellaneous
(substrate; black perylene **pigments** for **dyeing** plastics)

L26 ANSWER 7 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:1076929 HCAPLUS Full-text
 DOCUMENT NUMBER: 142:45873
 TITLE: Electrophotographic photoreceptor containing
 charge-generating and charge-transporting
 substances, and image-forming method and apparatus

INVENTOR(S): Kitahara, Kenichi
 PATENT ASSIGNEE(S): Konica Minolta Business Technologies, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 77 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004354575	A	20041216	JP 2003-150623	20030528
PRIORITY APPLN. INFO.:			JP 2003-150623	20030528

OTHER SOURCE(S): MARPAT 142:45873

ED Entered STN: 16 Dec 2004

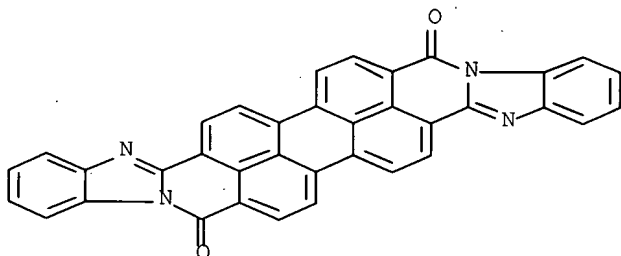
AB The photoreceptor has a charge-generating layer (A) containing a n-type pigment (e.g., perylenes) and a p-type charge-generating substance (e.g., phthalocyanines) and a charge-transporting layer (B) containing a charge-transporting substance with mol. weight 550-2000 in succession on an elec.-conducting support. Alternatively, the photoreceptor has the layer A containing a n-type charge-generating substance, the other layer A containing the p-type charge-generating substance, and the layer B in succession on the support. The electrophotog. image is formed by developing a latent image on the obtained photoreceptor with a toner, transferring a toner image, and cleaning residual toners, in which the toner is characterized by (1) that the relationship $m1 + m2 \geq 70\%$ ($m1$ = relative frequency of a toner in the highest frequency class in a number-based particle distribution histogram having $\ln D$ transverse axis with 0.23 interval classes; D (μm) = toner particle diameter; $m2$ = relative frequency of a toner in the class next to the highest) is satisfied or (2) that a toner without corners is used in content ≥ 50 number%. The photoreceptor prevents fog, residual potential rise, and image d. reduction, providing images with improved sharpness.

IT 55034-79-2 144660-60-6 801320-13-8

(n-type pigment containing; electrophotog. photoreceptor containing charge-generating pigments and charge-transporting substances for sharp image formation)

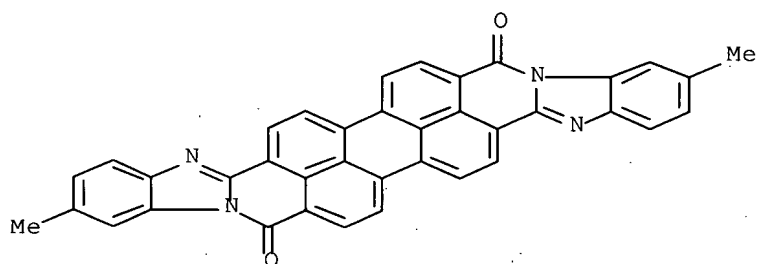
RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)

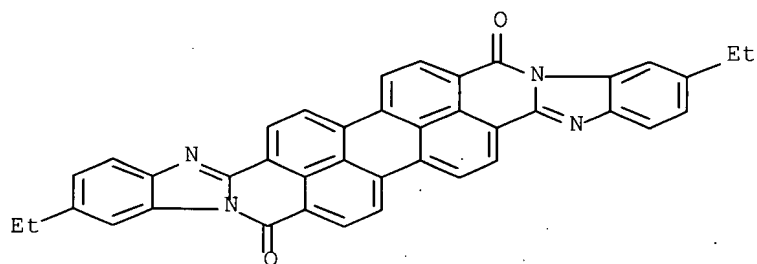


RN 144660-60-6 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione, 2,13-dimethyl- (9CI) (CA INDEX NAME)



RN 801320-13-8 HCAPLUS
 CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione, 2,13-diethyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06
 ICS G03G005-047; G03G005-14; G03G009-08
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 IT Electrophotographic photoconductors (photoreceptors)
 Electrophotography
 Pigments, nonbiological
 (electrophotog. photoreceptor containing charge-generating pigments and charge-transporting substances for sharp image formation)
 IT 55034-79-2 55034-81-6 144660-60-6
 801320-13-8
 (n-type pigment containing; electrophotog. photoreceptor containing charge-generating pigments and charge-transporting substances for sharp image formation)

L26 ANSWER 8 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:589075 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:148538
 TITLE: Anisotropic film manufacturing
 INVENTOR(S): Lazarev, Pavel I.; Nazarov, Victor V.
 PATENT ASSIGNEE(S): Nitto Denko Corporation, Japan
 SOURCE: U.S. Pat. Appl. Publ., 22 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004142183	A1	20040722	US 2003-685930	20031014
US 7166161	B2	20070123		
WO 2004065524	A1	20040805	WO 2004-US1179	20040116
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
JP 2006521571	T	20060921	JP 2006-500990	20040116
PRIORITY APPLN. INFO.:			US 2003-440939P	P 20030117
			US 2003-685930	A 20031014
			WO 2004-US1179	W 20040116

OTHER SOURCE(S): MARPAT 141:148538

ED Entered STN: 23 Jul 2004

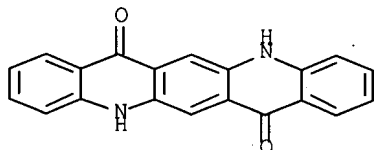
AB The invention features the use of organic compds. for manufacturing thin crystal films useful in various applications. Methods for obtaining an anisotropic film are described which entail providing a substrate, depositing by means of a cascade crystallization process ≥ 1 conjugated aromatic crystalline layer onto the substrate, wherein the conjugated aromatic crystalline layer is characterized by a globally ordered crystalline structure with an intermol. spacing of 3.4 ± 0.3 Å in the direction of one of optical axes, and formed by rodlike supramols., which comprise ≥ 1 polycyclic organic compound with a conjugated π -system and ionogenic groups, and applying an external action upon ≥ 1 deposited conjugated aromatic crystalline layer, wherein the external action has a duration, character, and intensity which are selected so as to ensure partial removal of ionogenic groups from the conjugated aromatic crystalline layer while retaining the crystalline structure after termination of the external action. The compds. may be capable of forming lyotropic liquid crystal phases. Anisotropic films are also described comprising a modified aromatic crystalline film deposited on a substrate with at least part of the modified conjugated aromatic crystalline layer being elec. conductive and slightly soluble or insol. in polar solvents.

IT 1047-16-1, Quinacridone

(anisotropic film production with removal of ionogenic groups from conjugated aromatic crystalline layers)

RN 1047-16-1 HCAPLUS

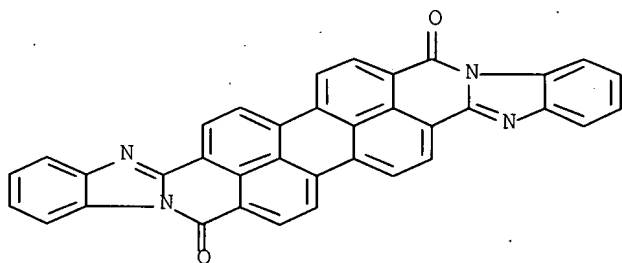
CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro- (CA INDEX NAME)



IT 55034-79-2

(mixture with cis isomer; anisotropic film production with removal of ionogenic groups from conjugated aromatic crystalline layers)

RN 55034-79-2 HCAPLUS
 CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM B32B009-04
 INCL 428426000; X42-841.11
 CC 75-1 (Crystallography and Liquid Crystals)
 Section cross-reference(s): 73, 76
 IT 81-77-6, Indanthrone 91-94-1, 3,3'-Dichlorobenzidine 92-87-5,
 [1,1'-Biphenyl]-4,4'-diamine 128-69-8, 3,4,9,10-
 Perylenetetracarboxylic dianhydride 131-14-6, 2,6-
 Diaminoanthraquinone 132-16-1, Iron phthalocyanine 147-14-8,
 Copper phthalocyanine 537-65-5, Bis(p-aminophenyl)amine 574-93-6,
 Phthalocyanine 574-93-6D, Phthalocyanine, compds. 605-44-7,
 2,7-Diaminoanthraquinone 1047-16-1, Quinacridone
 1661-03-6, Magnesium phthalocyanine 2085-33-8, Tris(8-
 hydroxyquinolinato)aluminum 2243-62-1, 1,5-Diaminonaphthalene
 2420-88-4 2425-95-8, 2,5-Bis(p-aminophenyl)-1,3,4-oxadiazole
 2915-84-6, 2,7-Diaminofluorenone 3317-67-7, Cobalt phthalocyanine
 5981-09-9, Tris(p-aminophenyl)amine 6259-19-4 8005-56-9, Vat red
 14 13930-88-6; Vanadyl phthalocyanine 14055-02-8, Nickel
 phthalocyanine 14154-42-8, Aluminum phthalocyanine chloride
 14285-60-0, Chromium phthalocyanine 14320-04-8, Zinc phthalocyanine
 14923-84-3, 1,6-Diaminopyrene 15187-16-3, Lead phthalocyanine
 15554-15-1, Aluminum phthalocyanine hydroxide 16363-53-4
 16971-95-2 18253-54-8 19333-10-9, Silicon phthalocyanine
 dichloride 19333-15-4, Silicon phthalocyanine dihydroxide
 26201-32-1, Titanyl phthalocyanine 41738-64-1, 3,7-
 Dibenzoethiophenediamine 93976-63-7 111716-29-1 135704-54-0
 (anisotropic film production with removal of ionogenic groups from
 conjugated aromatic crystalline layers)
 IT 55034-79-2
 (mixture with cis isomer; anisotropic film production with removal of
 ionogenic groups from conjugated aromatic crystalline layers)
 REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT
 L26 ANSWER 9 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:80987 HCAPLUS Full-text
 DOCUMENT NUMBER: 140:130469
 TITLE: Novel methods and compositions for improved
 electrophoretic display performance
 INVENTOR(S): Wu, Zarng-arh George; Haubrich, Jeanne E.; Wang,
 Xiaojia; Liang, Rong-chang

10/587,361

PATENT ASSIGNEE(S): Sipix Imaging, Inc., USA
 SOURCE: PCT Int. Appl., 38 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004010206	A2	20040129	WO 2003-US21681	20030710
WO 2004010206	A3	20040408		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG CN 1469177 A 20040121 CN 2002-153622 20021127 AU 2003249041 A1 20040209 AU 2003-249041 20030710 EP 1529242 A2 20050511 EP 2003-765534 20030710 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK JP 2005533289 T 20051104 JP 2004-523103 20030710 PRIORITY APPLN. INFO.: US 2002-396680P P 20020717 WO 2003-US21681 W 20030710				

ED Entered STN: 01 Feb 2004

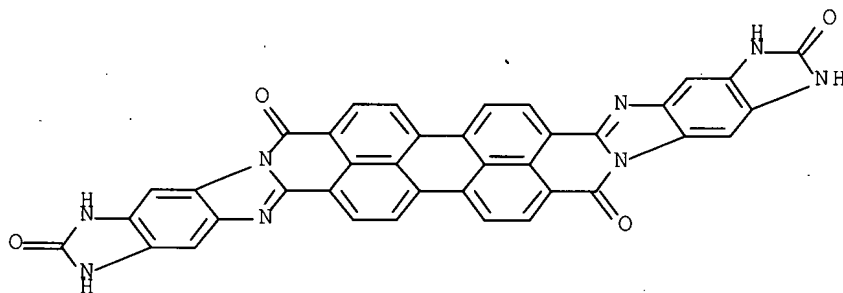
AB The invention is directed to novel methods and compns. useful for improving the performance of electrophoretic displays. The methods comprise adding a high absorbance **dye** or **pigment**, or conductive particles or a charge transport material into an electrode protecting layer of the display.

IT 94665-89-1

(**dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)

RN 94665-89-1 HCAPLUS

CN Bisimidazo[4',5':5,6]benzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-2,10,14,22-tetrone, 1,3,13,15-tetrahydro- (9CI) (CA INDEX NAME)



- IC ICM G02F001-00
- CC 48-7 (Unit Operations and Processes)
Section cross-reference(s): 29, 35, 38, 74, 76
- ST electrophoretic display **dye pigment** conducting
particle polymer sealant adhesive; electrophotog photoconductor
photoreceptor coated electrode metal complex oxide organometallic
- IT Oxidation potential
(<1.4 V (vs. SCE) for hole transport materials; **dyes, pigments**, crosslinking sealants and adhesives, and
conducting polymer components and novel methods and compns. for
improved electrophoretic display performance)
- IT Isoalkanes
(C7-10; **dyes, pigments**, crosslinking sealants
and adhesives, and conducting polymer components and novel methods
and compns. for improved electrophoretic display performance)
- IT Cyanine **dyes**
(Naphthalo, metal complexes; **dyes, pigments**,
crosslinking sealants and adhesives, and conducting polymer
components and novel methods and compns. for improved
electrophoretic display performance)
- IT UV absorption
(UV-visible, of **dyes and pigments; dyes**
, **pigments**, crosslinking sealants and adhesives, and
conducting polymer components and novel methods and compns. for
improved electrophoretic display performance)
- IT Carbon black, processes
(Vulcan XC-72, composite sealant with Kraton G-R 6919 and Kraton G
1650; **dyes, pigments**, crosslinking sealants and
adhesives, and conducting polymer components and novel methods and
compns. for improved electrophoretic display performance)
- IT Polysiloxanes, processes
(acrylates, Ebecryl 1360; **dyes, pigments**,
crosslinking sealants and adhesives, and conducting polymer
components and novel methods and compns. for improved
electrophoretic display performance)
- IT Polysiloxanes, uses
(acrylates, microcup polymer, laminated with primer-coated ITO/PET
film; **dyes, pigments**, crosslinking sealants and
adhesives, and conducting polymer components and novel methods and
compns. for improved electrophoretic display performance)
- IT Ketones, uses
(alkadienyl; **dyes, pigments**, crosslinking
sealants and adhesives, and conducting polymer components and novel
methods and compns. for improved electrophoretic display
performance)

- IT Nitriles, uses
Nitro compounds
(and oligomers and polymers of; **dyes, pigments,**
crosslinking sealants and adhesives, and conducting polymer
components and novel methods and compns. for improved
electrophoretic display performance)
- IT Amines, uses
(aromatic; **dyes, pigments,** crosslinking sealants
and adhesives, and conducting polymer components and novel methods
and compns. for improved electrophoretic display performance)
- IT Isoprene-styrene rubber
Polymers, uses
Styrene-butadiene rubber, uses
(block, triblock; **dyes, pigments,** crosslinking
sealants and adhesives, and conducting polymer components and novel
methods and compns. for improved electrophoretic display
performance)
- IT Synthetic rubber, uses
(butadiene-isoprene-styrene, hydrogenated, block, composite sealant
with Kraton G 1650 and Carb-O-Sil or carbon black; **dyes,**
pigments, crosslinking sealants and adhesives, and
conducting polymer components and novel methods and compns. for
improved electrophoretic display performance)
- IT Metalloporphyrins
(cobalt; **dyes, pigments,** crosslinking sealants
and adhesives, and conducting polymer components and novel methods
and compns. for improved electrophoretic display performance)
- IT Acrylic polymers, uses
(cyano-containing; **dyes, pigments,** crosslinking
sealants and adhesives, and conducting polymer components and novel
methods and compns. for improved electrophoretic display
performance)
- IT Isocyanates
(di- and poly- monomers, polymers containing; **dyes,**
pigments, crosslinking sealants and adhesives, and
conducting polymer components and novel methods and compns. for
improved electrophoretic display performance)
- IT Adhesives
Coating materials
Crosslinking
 Dyes
Electric conductors
Electrodes
Electrophotographic apparatus
Electrophotographic photoconductors (photoreceptors)
Embossing
Lamination
 Pigments, nonbiological
Sealing compositions
 (**dyes, pigments,** crosslinking sealants and
adhesives, and conducting polymer components and novel methods and
compns. for improved electrophoretic display performance)
- IT Thermoplastic rubber
(**dyes, pigments,** crosslinking sealants and
adhesives, and conducting polymer components and novel methods and
compns. for improved electrophoretic display performance)
- IT Alkadienes
Enamines
Epoxy resins, uses
Hydrazones

- Metals, uses
 (dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Diazo compounds
 Metallophthalocyanines
 Metalloporphyrins
 (dyes; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Oxides (inorganic), uses
 (elec. conductive; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Carbonaceous materials (technological products)
 (elec. conductor; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Optical imaging devices
 (electrophoretic; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Polyurethanes, uses
 (encapsulated TiO₂; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Polyesters, processes
 (film coated with ITO; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Styrene-butadiene rubber, uses
 (hydrogenated, block, triblock, Kraton G 1650, composite with Kraton G-R 6919/Carb-O-Sil or Carbon black; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Engineering
 (inventions; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Epoxides
 (mono- and multifunctional oligomers and polymers containing; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Azo dyes
 (monoazo, diazo, and polyazo; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Allylic compounds
 (multifunctional monomers, polymers of; dyes, pigments, crosslinking sealants and adhesives, and

- conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Metalloporphyrins
(nickel, **dyes**; **dyes**, **pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Heterocyclic compounds
(nitrogen, five-membered, triazoles; **dyes**, **pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Alloys, uses
(nonferrous; **dyes**, **pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT IR absorption
(of **dyes** and **pigments**; **dyes**, **pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Electrophoresis apparatus
(optical imaging; **dyes**, **pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Polymerization
(photopolymn.; **dyes**, **pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Transition metal complexes
(phthalocyanine, **dyes**; **dyes**, **pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Vinyl compounds, uses
(polymers, from multifunctional monomers; **dyes**, **pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Vanadyl complexes
(porphyrin, **dyes**; **dyes**, **pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Plastics, uses
(thermoplastics; **dyes**, **pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Epoxides
Polyamides, reactions
Polycarbonates, reactions
Polyesters, reactions
Polyethers, reactions
Polyurethanes, reactions
Polyvinyl butyrals
(thermoset or thermoplastic precursor; **dyes**,

- pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Plastics, uses
(thermosetting; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Metallophthalocyanines
(transition metal complexes, **dyes; dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Metalloporphyrins
(vanadyl, **dyes; dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Nitrile rubber, processes
(vinyl group-terminated, Hycar 1300-43; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Ethers, reactions
(vinyl, polymers, oligomers and polymers containing, thermoset or thermoplastic precursor; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT Ethers, reactions
(vinyl, thermoset or thermoplastic precursor; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 4687-94-9, Ebecryl 600
(Bisphenol A-containing diacrylate; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 13048-33-4, 1,6-Hexanediol diacrylate
(HDODA; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 75081-21-9, ITX
(ITX; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 50926-11-9, Indium tin oxide
(PET film coated with; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 60506-81-2, SR 399
(a tetraacrylate; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 41484-35-9, Irganox 1035
(bis (hindered phenol thioether); **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer

- components and novel methods and compns. for improved electrophoretic display performance)
- IT 138184-94-8, Cab-O-Sil TS 720
(composite sealant with Kraton G-R 6919 and Kraton G 1650; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 65181-78-4, N,N'-Bis(3-methylphenyl)-N-N'-diphenylbenzidine
(**dye**, in Duro-Tak adhesive layer; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 12227-55-3, Orasol Red BL 12237-23-9, Orasol Black CN 61931-55-3, Orasol Yellow 2GLN
(**dye**, in Duro-Tak adhesive layer; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 56996-93-1, Sudan Black 61901-87-9, Orasol Black RLI 71799-11-6, Orasol Blue GL
(**dye**, in Duro-Tak adhesive layer; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 14916-87-1, FC 3275
(**dye; dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 77-58-7, Dibutyltin dilaurate
(**dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 78-93-3, Methyl ethyl ketone, uses
(**dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 147-14-8D, Copper phthalocyanine, derivs. 7429-90-5D, Aluminum, phthalocyanine or naphthalocyanine complexes 7439-89-6D, Iron, phthalocyanine or naphthalocyanine complexes 7439-92-1D, Lead, phthalocyanine or naphthalocyanine complexes 7439-95-4, Magnesium, processes 7440-02-0D, Nickel, naphthalocyanine derivs. complexes 7440-31-5D, Tin, phthalocyanine or naphthalocyanine complexes 7440-32-6D, Titanium, naphthalocyanine derivs. complexes 7440-43-9D, Cadmium, phthalocyanine or naphthalocyanine complexes 7440-48-4D, Cobalt, naphthalocyanine derivs. complexes 7440-62-2D, Vanadium, phthalocyanine or naphthalocyanine complexes 7440-66-6D, Zinc, phthalocyanine or naphthalocyanine complexes 7440-74-6D, Indium, phthalocyanine or naphthalocyanine complexes 78675-98-6D, Squaraine, derivs.
(**dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 9003-42-3, Poly(ethyl methacrylate)
(**dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 74-82-8D, Methane, triaryl derivs. 81-33-4 85-83-6, Sudan IV 85-86-9, Sudan III 86-74-8D, Carbazole, derivs. 92-52-4D, Biphenyl, derivs. 129-79-3, 2,4,7-Trinitro-9-fluorenone 288-42-6D,

Oxazole, derivs. 288-99-3D, 1,3,4-Oxadiazole, 2,5-bis(4-N,N'-dialkylaminophenyl) 486-25-9, Fluorenone 486-25-9D, Fluorenone, oligomers and polymers of 809-73-4 842-07-9, Sudan yellow 966-88-1D, Benzaldehyde-N,N-diphenylhydrazone, p-dialkylamino derivs. 1159-53-1 1229-55-6, Sudan R 1450-63-1, 1,1,4,4-Tetraphenylbutadiene 1484-96-4 1518-16-7 2085-33-8 2417-00-7 2455-14-3 2491-91-0, 2,5-Bis(4-methylphenyl)-1,3,4-oxadiazole 3118-97-6, Sudan II 4197-25-5, Sudan Black B 5152-94-3 7429-90-5, Aluminum, uses 7429-90-5D, Aluminum, alloys 7439-89-6, Iron, uses 7439-89-6D, Iron, alloys 7440-02-0D, Nickel, alloys 7440-22-4, Silver, uses 7440-22-4D, Silver, alloys 7440-50-8, Copper, uses 7440-50-8D, Copper, alloys 7440-57-5, Gold, uses 7440-57-5D, Gold, alloys 7440-74-6, Indium, uses 7440-74-6D, Indium, alloys 7782-42-5, Graphite, uses 9003-39-8, Polyvinylpyrrolidone 9003-55-8, Styrene-butadiene copolymer 11120-54-0D, Oxadiazole, derivs. 12673-86-8, Antimony tin oxide 14705-63-6 14705-63-6D, alkylated and alkoxylated derivs. 14752-00-2 15546-43-7, N,N,N',N'-Tetraphenylbenzidine 20441-06-9 23467-27-8 24937-78-8, Ethylene-vinyl acetate copolymer 26009-24-5, Poly(p-phenylene vinylene) 33200-26-9 35079-58-4 35458-94-7 36118-45-3D, Pyrazoline, Ph dialkylaminostyrene dialkylaminophenyl derivs. 36118-45-3D, Pyrazoline, derivs. 41584-66-1 43134-09-4 51325-95-2 58280-31-2 58328-31-7, 4,4'-Bis(carbazol-9-yl)biphenyl 58473-78-2 59765-31-0 59869-79-3 69361-50-8D, bis(4-N,N-dialkylamino) 75232-44-9 76185-65-4 82532-76-1 83992-95-4 85171-94-4 89114-90-9 89114-91-0 89991-16-2 93376-18-2, (4-Butoxycarbonyl-9-fluorenylidene)malononitrile 93975-08-7 93975-09-8 **94665-89-1** 95270-88-5, Polyfluorene 95993-52-5 96492-45-4 97671-90-4 103079-11-4 105389-36-4, 4,4',4''-Tris(N,N-diphenylamino)triphenylamine 117944-65-7, Indium zinc oxide 123847-85-8 126213-51-2, Poly(3,4-ethylenedioxythiophene) 127022-77-9, Hexakis(benzylthio)benzene 138171-14-9 138372-67-5 139092-78-7 139255-17-7 141752-82-1 142289-08-5 150405-69-9 154896-84-1 164534-25-2 174493-15-3 182507-83-1 184101-39-1 185690-39-5, 4,4',4''-Tris[N-(1-naphthyl)-N-phenylamino]triphenylamine 203799-76-2 254435-83-1, Sudan Blue 376386-75-3 482654-95-5 649735-34-2 649735-35-3 649735-37-5D, 2,5-bis(4-dialkylaminophenyl) derivs. 649735-38-6 650609-45-3 650609-46-4 650609-47-5 650609-48-6

(dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)

IT 68-12-2, Dimethylformamide, uses 108-21-4, Isopropyl acetate 108-88-3, Toluene, uses 110-54-3, Hexane, uses 141-78-6, Ethyl acetate, uses

(dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)

IT 650634-86-9, Duro-Tak 1105

(dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)

IT 6712-98-7 15625-89-5, Trimethylolpropane triacrylate 165169-07-3, Desmodur N 3400 601484-87-1

(dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)

IT 198-55-0, Perylene 488-86-8D, Croconic acid, amine derivs. 3317-67-7, Cobalt phthalocyanine 12226-78-7, C.I.Solvent Blue 67

- 14055-02-8D, Nickel phthalocyanine, derivs. 14172-92-0, Nickel tetraphenylporphine 33273-09-5D, derivs. 52324-93-3, Titanium phthalocyanine
 (dyes, dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 650609-44-2P
 (electrophoretic TiO₂ encapsulant; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 13463-67-7, R900, uses
 (encapsulated with electrophoretic polymer; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 25038-59-9, PET, processes
 (film coated with ITO; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 119313-12-1, Irgacure 369
 (initiator; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 105729-79-1 700836-36-8
 (isoprene-styrene rubber, block, triblock; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 7440-02-0, Nickel, uses
 (microcup base template; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 4687-94-9DP, Ebecryl 600, polymers containing 13048-33-4DP, HDDA, polymers containing 15625-89-5DP, TMPTA, polymers containing 60506-81-2DP, SR 399, polymers containing
 (microcup polymer, laminated with primer-coated ITO/PET film; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 9003-18-3
 (nitrile rubber, vinyl group-terminated, Hycar 1300-43; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 12047-27-7, K-Plus 16, uses
 (pigment, in Duro-Tak adhesive layer; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 115452-84-1, Disperbyk 163
 (polymeric dispersant; dyes, pigments, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 649735-33-1P

(primer coating for ITO/PET film; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)

- IT 106107-54-4 694491-73-1
(styrene-butadiene rubber, block, triblock; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 53568-48-2, Disperse-Ayd 6
(surfactant; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 79-10-7D, Acrylic acid, multifunctional and multi- esters, oligomers and polymers containing 79-10-7D, Acrylic acid, multifunctional esters 79-41-4D, Methacrylic acid, multifunctional and multi- esters, oligomers and polymers containing 79-41-4D, Methacrylic acid, multifunctional esters 100-42-5D, Styrene, derivs. 100-42-5D, Styrene, oligomers and polymers containing 9003-01-4D, Polyacrylic acid, alkyl esters 9004-36-8, Cellulose acetate butyrate 25087-26-7D, Polymethacrylic acid, alkyl esters
(thermoset or thermoplastic precursor; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)
- IT 477290-74-7, Galden HT 200
(tri-hydric amino alc.; **dyes, pigments**, crosslinking sealants and adhesives, and conducting polymer components and novel methods and compns. for improved electrophoretic display performance)

L26 ANSWER 10 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:784537 HCAPLUS Full-text

DOCUMENT NUMBER: 140:288818

TITLE: Separation of **dye** mixture by sublimation
in a vertical coaxially symmetric
evaporation-condensation system

INVENTOR(S): Nazarov, V. V.; Ilatovskii, V. A.

PATENT ASSIGNEE(S): ZAO "Kvanta Invest", Russia

SOURCE: Russ., No pp. given

CODEN: RUXXE7

DOCUMENT TYPE: Patent

LANGUAGE: Russian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE -----
RU 2209222	C2	20030727	RU 2001-116502	20010619
PRIORITY APPLN. INFO.:			RU 2001-116502	20010619

ED Entered STN: 07 Oct 2003

AB Separation of a **dye** mixture by sublimation in a vertical coaxially sym. evaporation-condensation system comprises the steps of (a) placing **dyes** in an evaporator positioned at the bottom of a cylindrical chamber of the evaporation-condensation system containing at least one support fixed on vertical chamber walls, (b) sealing and evacuating the chamber, (c) heating the evaporator at a rate < 40 °/h to a temperature at least 20° above the sublimation temperature of a **dye**, while simultaneously cooling the upper

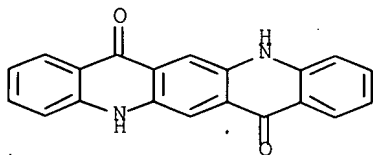
section of the chamber to maintain temperature of the upper part of the support $\leq 50^\circ$, (d) subliming the mixture at a constant temperature gradient, (e) cooling the apparatus to ambient temperature, (f) opening the chamber, and (g) removing the support and collecting the purified **dyes**. The method can be used to purify polycyclic **dyes**, such as indanthrone, quinacridone, and bisbenzimidazoles of naphthalenetetracarboxylic acid and perylenetetracarboxylic acid, capable of forming a lyotropic liquid crystal phase.

IT 1047-16-1, Quinacridone 55034-79-2

(separation of **dye** mixture by sublimation in vertical coaxially sym. evaporation-condensation system)

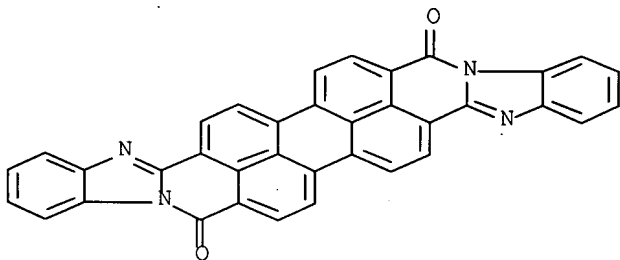
RN 1047-16-1 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro- (CA INDEX NAME)



RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM C09B067-54

CC 41-1 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 47, 75

ST **dye** mixt zone sublimation vacuum evapn condensation app; purified polycyclic **dye** lyotropic liq crystal film

IT Polycyclic compounds

(**dyes**; separation of **dye** mixture by sublimation in vertical coaxially sym. evaporation-condensation system)

IT Liquid crystals

(films, **dyes**; separation of **dye** mixture by sublimation in vertical coaxially sym. evaporation-condensation system)

IT Films

(liquid-crystal, **dyes**; separation of **dye** mixture by sublimation in vertical coaxially sym. evaporation-condensation system)

IT Liquid crystals

(lyotropic, **dyes**; separation of **dye** mixture by

- sublimation in vertical coaxially sym. evaporation-condensation system)
- IT **Dyes**
Polarizing films
(separation of **dye** mixture by sublimation in vertical coaxially sym. evaporation-condensation system)
- IT **Evaporators**
(sublimation apparatus; separation of **dye** mixture by sublimation in vertical coaxially sym. evaporation-condensation system)
- IT **Sublimation**
(vacuum; separation of **dye** mixture by sublimation in vertical coaxially sym. evaporation-condensation system)
- IT **Zone melting**
(zone sublimation; separation of **dye** mixture by sublimation in vertical coaxially sym. evaporation-condensation system)
- IT **Sublimation**
(zone; separation of **dye** mixture by sublimation in vertical coaxially sym. evaporation-condensation system)
- IT 12597-68-1, Stainless steel, uses
(condensation support; separation of **dye** mixture by sublimation in vertical coaxially sym. evaporation-condensation system)
- IT 81-77-6, Indanthrone 1047-16-1, Quinacridone 4216-02-8
55034-79-2
(separation of **dye** mixture by sublimation in vertical coaxially sym. evaporation-condensation system)

L26 ANSWER 11 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:97481 HCAPLUS Full-text

DOCUMENT NUMBER: 138:138774

TITLE: Black perylene pigment prepared by burning mixture of perylenetetracarboxylic dianhydride, perylenetetracarboxylic diimides, and/or perylenediiminodicarboxylic diimides

INVENTOR(S): Mizuguchi, Jin; Shimo, Nobuya

PATENT ASSIGNEE(S): Toda Kogyo Corp., Japan; Yokohama TLO Company, Ltd.

SOURCE: PCT Int. Appl., 24 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003010242	A1	20030206	WO 2002-JP7603	20020726
W:	AE, AG, AL, AU, BA, BB, BG, BR, BZ, CA, CN, CO, CR, CU, CZ, DM, DZ, EC, EE, GD, GE, HR, HU, ID, IL, IN, IS, KP, KR, LC, LK, LR, LT, LV, MA, MG, MK, MN, MX, NO, NZ, OM, PH, PL, RO, SG, SI, SK, TN, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
JP 2003041145	A	20030213	JP 2001-227693	20010727
AU 2002323957	A1	20030217	AU 2002-323957	20020726
EP 1413606	A1	20040428	EP 2002-755665	20020726
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			
US 2004255821	A1	20041223	US 2004-762579	20040123

US 7083675
PRIORITY APPLN. INFO.:

B2 20060801

JP 2001-227693

A 20010727

WO 2002-JP7603

W 20020726

OTHER SOURCE(S): MARPAT 138:138774

ED Entered STN: 07 Feb 2003

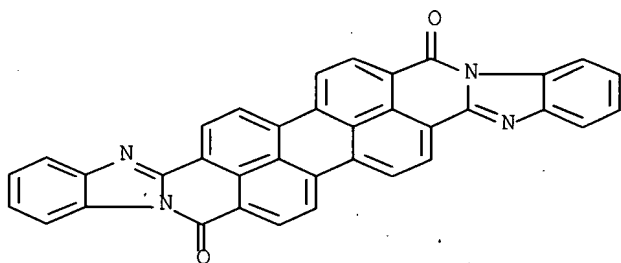
AB The black perylene pigment comprises a solid solution obtained by burning a mixture of ≥ 2 compds. selected from perylenetetracarboxylic dianhydride, perylenetetracarboxylic diimides, and perylenediiminodicarboxylic diimides under vacuum or in an inert gas atmosphere at 100-600°. The black perylene pigments have good blackness, heat resistance and weatherability and high elec. resistance, and are useful for inks, coatings, electrophotog. tones, rubbers, plastics, etc.

IT 55034-79-2

(black perylene pigment prepared by burning mixture of perylenetetracarboxylic dianhydride, perylenetetracarboxylic diimides, and/or perylenediiminodicarboxylic diimides)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM C09B067-22

ICS C09B005-62; C09B067-20

CC 41-8 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 38, 39, 42, 74

IT **Pigments, nonbiological**

(black; black perylene pigment prepared by burning mixture of perylenetetracarboxylic dianhydride, perylenetetracarboxylic diimides, and/or perylenediiminodicarboxylic diimides)

IT 81-33-4 128-69-8 55034-79-2 55034-81-6 494224-70-3
494224-71-4

(black perylene pigment prepared by burning mixture of perylenetetracarboxylic dianhydride, perylenetetracarboxylic diimides, and/or perylenediiminodicarboxylic diimides)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 12 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:97480 HCAPLUS Full-text

DOCUMENT NUMBER: 138:138773

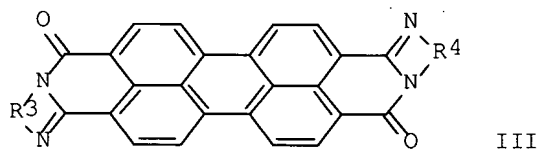
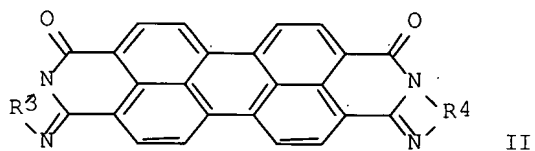
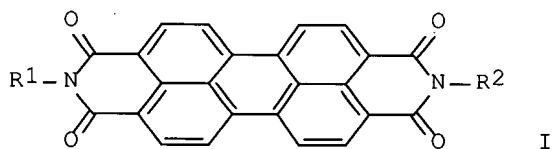
TITLE: Black perylene pigment prepared by burning perylenetetracarboxylic diimides or

10/587,361

INVENTOR(S): perylenediiminodicarboxylic diimides
 Mizuguchi, Jin; Shimo, Nobuya
 PATENT ASSIGNEE(S): Toda Kogyo Corp., Japan; Yokohama TLO Company,
 Ltd.
 SOURCE: PCT Int. Appl., 21 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003010241	A1	20030206	WO 2002-JP7602	20020726
W: AE, AG, AL, AU, BA, BB, BG, BR, BZ, CA, CN, CO, CR, CU, CZ, DM, DZ, EC, EE, GD, GE, HR, HU, ID, IL, IN, IS, KP, KR, LC, LK, LR, LT, LV, MA, MG, MK, MN, MX, NO, NZ, OM, PH, PL, RO, SG, SI, SK, TN, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2003041144	A	20030213	JP 2001-227694	20010727
AU 2002323955	A1	20030217	AU 2002-323955	20020726
EP 1413605	A1	20040428	EP 2002-755664	20020726
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
US 2005016420	A1	20050127	US 2004-484639	20040902
US 7105046	B2	20060912		
PRIORITY APPLN. INFO.:			JP 2001-227694	A 20010727
			WO 2002-JP7602	W 20020726

OTHER SOURCE(S): MARPAT 138:138773
 ED Entered STN: 07 Feb 2003
 GI



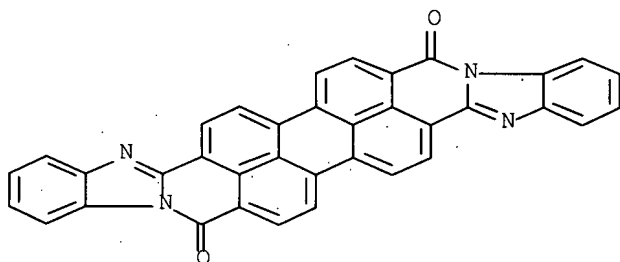
AB The black perylene pigment is manufactured by burning ≥ 1 compound selected diimide derivs. of perylenetetracarboxylic acid and diimide derivs. of perylenediiminodicarboxylic acid I, II and III (R1, R2 = Bu, phenylethyl, methoxyethyl, 4-methoxyphenylmethyl; R3, R4 = (un)substituted phenylene, (un)substituted pyridinyl, naphthalenyl) under vacuum or in an inert gas atmospheric at 200-600°. The black perylene pigments have good blackness, heat resistance and weatherability and high elec. resistance, and are useful for inks, coatings, electrophotog. tones, rubbers, plastics, etc.

IT 55034-79-2

(black perylene pigment prepared by burning perylenetetracarboxylic diimides or perylenediiminodicarboxylic diimides)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM C09B067-20

ICS C09B005-62

CC 41-8 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 38, 39, 42, 74

IT **Pigments, nonbiological**

(black; black perylene pigment prepared by burning perylenetetracarboxylic diimides or perylenediiminodicarboxylic diimides)

IT 52000-75-6 55034-79-2 55034-81-6

(black perylene pigment prepared by burning perylenetetracarboxylic diimides or perylenediiminodicarboxylic diimides)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 13 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:119612 HCAPLUS Full-text

DOCUMENT NUMBER: 136:191638

TITLE: Electrophotography, its apparatus, process cartridges, and photoreceptors containing perylene hybridized pigments

INVENTOR(S): Yasuda, Kenichi

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002049169	A	20020215	JP 2000-238361	20000807
PRIORITY APPLN. INFO.:			JP 2000-238361	20000807

ED Entered STN: 15 Feb 2002

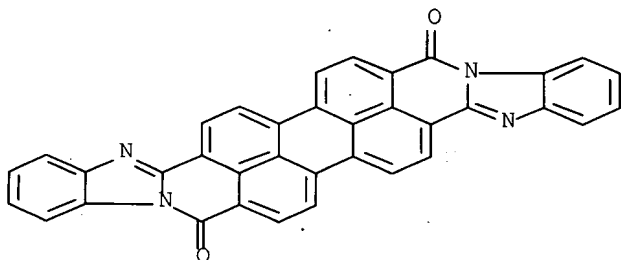
AB The photoreceptors, showing stable chargeability and little environment dependency, possess vinyl butyral resin-based interlayers containing hole transport substances and charge-generating layers employing metal-containing hybridized perylene pigments as charge generating substances. The metals may be Ti, Cu, Va, or Ga, and their amount in the pigments may be 50-10,000 ppm. The perylene pigments show Cu-K α XRD peaks at $(2\theta \pm 0.2) = 6.2, 10.1, \text{ and } 12.2^\circ$.

IT 55034-79-2

(in preparation of metal-containing perylene hybrid pigments as charge-transport substances in electrophotog. photoreceptors)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM G03G005-06

ICS G03G005-06; G03G005-14

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 41

IT **Pigments, nonbiological**

(perylene, hybrid; electrophotog. photoreceptors containing metal-containing perylene hybrid pigments in charge generating layers)

IT 147-14-8, Copper phthalocyanine 55034-79-2 55034-81-6

63371-84-6, Hydroxygallium phthalocyanine

(in preparation of metal-containing perylene hybrid pigments as charge-transport substances in electrophotog. photoreceptors)

L26 ANSWER 14 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:99855 HCAPLUS Full-text

DOCUMENT NUMBER: 136:325179

TITLE: Synthesis and optical properties of 3,4,9,10-perylenetetracarboxylic acid derivatives

AUTHOR(S): Sapagovas, V. J.; Kadziauskas, P.; Undzenas, A.; Purlys, R.

CORPORATE SOURCE: Department of Organic Chemistry, Vilnius

SOURCE: University, Vilnius, 2006, Lithuania
 Environmental and Chemical Physics (2001), 23(1),
 30-37
 CODEN: ECPNB5; ISSN: 1392-740X
 PUBLISHER: Institute of Physics
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 136:325179
 ED Entered STN: 06 Feb 2002

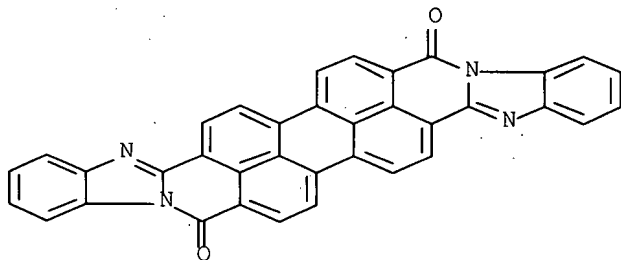
AB Perylene pigments N,N'-dibenzyl-3,4,9,10-perylenetetracarboxylic diimide (2a) and 3,4,9,10-perylenetetracarboxylic bisbenzimidazole (3) were synthesized. Employing a zinc acetate catalyst for the synthesis leads to significantly higher yields of the perylene compds. Solution and solid-state UV/Vis absorption spectra of pigments were recorded. Diimide 2a undergoes aggregation to dimers or larger aggregates at higher concns. in chloroform and dimethylsulfoxide solns. Bisbenzimidazole 3 showed much less solubility, and absorption measurements at higher concns. in solution were impossible. UV/Vis absorption maxima of both pigments in the solid state are bathochromically shifted after treatment with alcs. X-ray diffraction spectra of both pigments indicate that changes in a crystalline state occur after treatment with alcs. Perylene pigments are of application-related interest due to their photoelec. properties.

IT 55034-79-2P

(synthesis and optical absorption of 3,4,9,10-perylenetetracarboxylic acid derivs.)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



CC 22-9 (Physical Organic Chemistry)
 Section cross-reference(s): 41

IT **Pigments, nonbiological**
 UV and visible spectra
 X-ray diffraction

(synthesis and optical absorption of 3,4,9,10-perylenetetracarboxylic acid derivs.)

IT 52000-81-4P 55034-79-2P 55034-81-6P

(synthesis and optical absorption of 3,4,9,10-perylenetetracarboxylic acid derivs.)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L26 ANSWER 15 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:98728 HCAPLUS Full-text

DOCUMENT NUMBER: 136:158771
 TITLE: **Pigment** mixtures, their manufacture and use in electrophotographic photoreceptors of process cartridges of imaging apparatus
 INVENTOR(S): Hayata, Hirofumi
 PATENT ASSIGNEE(S): Konica Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002038047	A	20020206	JP 2000-220537	20000721
PRIORITY APPLN. INFO.:			JP 2000-220537	20000721

ED Entered STN: 06 Feb 2002

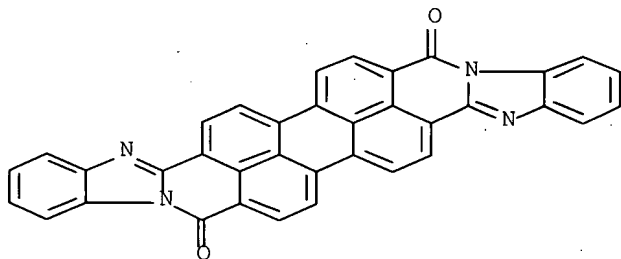
AB The mixts. contain (A) compds. containing ≥ 1 metal element (e.g., metal phthalocyanine compound), and (B) non-metallic **pigment** compds. (e.g., bisimidazole perylene compound) which form a mixture with A provided that the x-ray diffraction pattern of the mixture is similar to that of the A. Photoreceptor containing the **pigment** mixts. in its charge-generating layer and a charge-carrier layer has good sensitivity and long service life.

IT 55034-79-2

(**dye**; mixed **pigments**, manufacture and use in electrophotog. receptors)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM C09B067-22

ICS G03G005-05; G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 41

ST bisimidazole perylene **dye** org **pigment** mixt
 phthalocyanine metal photoreceptor; metallophthalocyanine **dye**
pigment process cartridge electrophotog receptor

IT Polycarbonates, uses

(charge-carrier layer; mixed **pigments**, manufacture and use in electrophotog. receptors)

IT Polyamides, uses

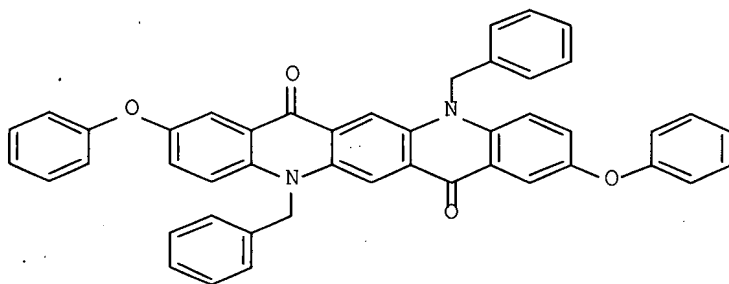
(middle layer for charge-generating layer; mixed **pigments**)

- , manufacture and use in electrophotog. receptors)
- IT **Dyes**
Electrophotographic photoconductors (photoreceptors)
(mixed **pigments**, manufacture and use in electrophotog. receptors)
- IT Polyvinyl butyrals
(mixed **pigments**, manufacture and use in electrophotog. receptors)
- IT Polyesters, uses
(support layer for charge-generating layer; mixed **pigments**, manufacture and use in electrophotog. receptors)
- IT 25037-45-0, Bisphenol A-carbonic acid copolymer 25135-52-8, Iupilon Z 200
(charge-carrier layer; mixed **pigments**, manufacture and use in electrophotog. receptors)
- IT 7429-90-5, Aluminum, uses
(deposition layer for charge-generating layer; mixed **pigments**, manufacture and use in electrophotog. receptors)
- IT 55034-79-2
(**dye**; mixed **pigments**, manufacture and use in electrophotog. receptors)
- IT 147-14-8, Copper phthalocyanine 13930-88-6, Vanadium oxyphthalocyanine 52324-93-3, Titanium phthalocyanine 63371-84-6, Hydroxy gallium phthalocyanine
(mixture with perylene compound; mixed **pigments**, manufacture and use in electrophotog. receptors)
- IT 25038-59-9, PET polyester, uses
(support layer for charge-generating layer; mixed **pigments**, manufacture and use in electrophotog. receptors)

L26 ANSWER 16 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:98725 HCAPLUS Full-text
 DOCUMENT NUMBER: 136:152024
 TITLE: Light-resistant fluorescent colorants having good compatibility with resins
 INVENTOR(S): Tamano, Michiko
 PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002038044	A	20020206	JP 2000-230268	20000731
PRIORITY APPLN. INFO.:			JP 2000-230268	20000731

OTHER SOURCE(S): MARPAT 136:152024
 ED Entered STN: 06 Feb 2002
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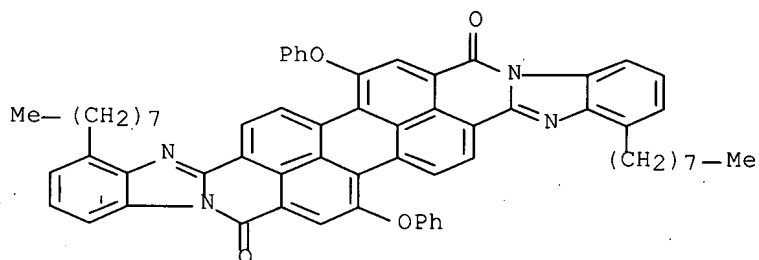
AB The colorants A(B)n (A = fused polycyclic organic group; B = C4-50 organic group; n = 1-8) are useful for resin moldings, coatings, and inks. Thus, a composition containing 100 parts HDPE (Hizex 2208) and 4 parts a masterbatch containing polyethylene 30, (I) 30, and polyethylene wax 40 parts was extruded to give a molding showing no discoloration after 48 h weatherometer exposure.

IT 395074-40-5

(light-resistant fluorescent colorants having good compatibility with resins)

RN 395074-40-5 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione, 4,15-diocetyl-8,19-diphenoxy- (9CI)
(CA INDEX NAME)

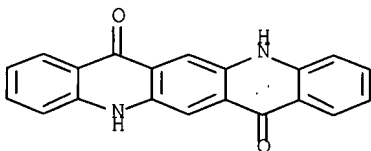


IT 1047-16-1, Quinacridone

(light-resistant fluorescent colorants having good compatibility with resins)

RN 1047-16-1 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro- (CA INDEX NAME)



IC ICM C09B048-00
ICS C09B005-62; C09D011-00; C09K011-06
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 41, 42
IT 395074-37-0 395074-38-1 395074-39-2 **395074-40-5**
(light-resistant fluorescent colorants having good compatibility
with resins)
IT 100-39-0, Benzyl bromide 112-29-8, 1-Bromodecane 112-82-3;
1-Bromohexadecane 139-59-3, 4-Aminodiphenyl ether **1047-16-1**
, Quinacridone 2696-85-7, 2-Butylaniline 6289-46-9, Dimethyl
succinylsuccinate
(light-resistant fluorescent colorants having good compatibility
with resins)

L26 ANSWER 17 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:160159 HCAPLUS Full-text

DOCUMENT NUMBER: 134:346369

TITLE: Organic pigment nanoparticle thin film devices via
Lewis acid pigment solubilization and in situ
pigment dispersions

AUTHOR(S): Hsieh, B. R.; Melnyk, A. R.

CORPORATE SOURCE: Xerox Corporation, Webster, NY, USA

SOURCE: Journal of Imaging Science and Technology (2001),
45(1), 37-42

CODEN: JIMTE6; ISSN: 1062-3701

PUBLISHER: Society for Imaging Science and Technology

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 07 Mar 2001

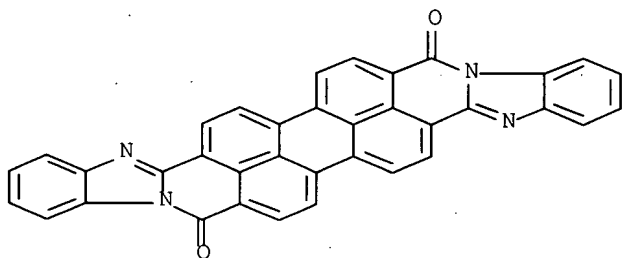
AB The authors introduce a new pigment processing approach, Lewis acid pigment solubilization (LAPS), for the fabrication of organic pigment thin film devices. The process involves the solubilization of an organic pigment in a Lewis acid/nitromethane solution. The resulting solution can be used to solvent cast pigment/Lewis acid thin films, which are then washed with an aqueous solution to remove the Lewis acid and give the final pigmented layers. Alternately, the pigment/Lewis acid solution can be used for acid pasting to give pigment wet cakes, which can then be used for preparing in situ pigment dispersions suitable for solvent coating. A wide range of organic pigment thin film devices can be fabricated using these processes, as the authors demonstrate in this article for the fabrication of organic photoreceptors.

IT **55034-79-2**

(organic pigment nanoparticle thin film devices via Lewis acid pigment solubilization and in-situ pigment dispersions)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 76

IT Electrophotographic photoconductors (photoreceptors)
 Films
 Photoconductors
Pigments, nonbiological
 Solubilization
 (organic pigment nanoparticle thin film devices via Lewis acid pigment solubilization and in-situ pigment dispersions)

IT 147-14-8, Copper phthalocyanine 980-26-7 7446-70-0, Aluminum chloride (AlCl₃), uses 12225-18-2 13930-88-6, Vanadyl phthalocyanine 24936-68-3, uses 25037-45-0, Bisphenol A carbonate homopolymer 25135-52-8 26201-32-1, Titanyl phthalocyanine 26471-16-9 55034-79-2 63371-84-6, Hydroxygallium phthalocyanine 65181-78-4
 (organic pigment nanoparticle thin film devices via Lewis acid pigment solubilization and in-situ pigment dispersions)

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 18 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:619528 HCAPLUS Full-text
 DOCUMENT NUMBER: 133:224247
 TITLE: Photoelectric-conversion pigment particles, their manufacture and use as electrophotographic receptors and electrophotographic imaging method using them
 INVENTOR(S): Yayata, Hirofumi; Watanabe, Kazumasa; Yasuda, Kenichi
 PATENT ASSIGNEE(S): Konica Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000239545	A	20000905	JP 1999-357041	19991216
US 6268097	B1	20010731	US 1999-468382	19991220
PRIORITY APPLN. INFO.:			JP 1998-362802	A 19981221

ED Entered STN: 06 Sep 2000

AB Electrophotog. receptors are obtained from the condensation products of polycyclic acid anhydrides and aromatic diamine compds., and pigments from metal complexes such as phthalocyanine complexes. Thus, mixing 0.3 g titanyl phthalocyanine with 30 g cis- and trans- bisbenzoimidazole perylene (derived from the condensation of 3,4,9,10-perylenetetracarboxylic anhydride and 1,2-diaminobenzene) mixture in 900 mL concentrated H₂SO₄ for 2 h, filtering and pouring the filtrate into 15 L water at <30° gave a precipitate 1.5 parts of which was milled with butyral resin 0.5, cyclohexanone 10 and 2-butanone 40 parts in a sand mill, coated on a laminate of CM 8000 (polyamide) film and an Al-deposited PET polyester film to dry thickness of .apprx.0.3 μm as a charge generation layer, and covered with a solution of a carrier transport agent

10/587,361

0.65, Iupilon Z 200 (polycarbonate) 1 in dichloroethane 7.5 parts to dry thickness of .apprx.24 μ m to give a photo-receptor.

IT 79534-91-1

(mixture with metallophthalocyanines; photoelec.-conversion pigment particles, manufacture and use as electrophotog. receptors and electrophotog. imaging method using them)

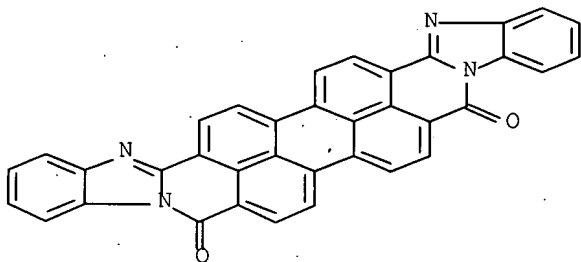
RN 79534-91-1 HCAPLUS

CN Bisbenzimidazo[2,1-a:1',2'-b']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-6;11-dione, mixt. with bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)

CM 1

CRN 55034-81-6

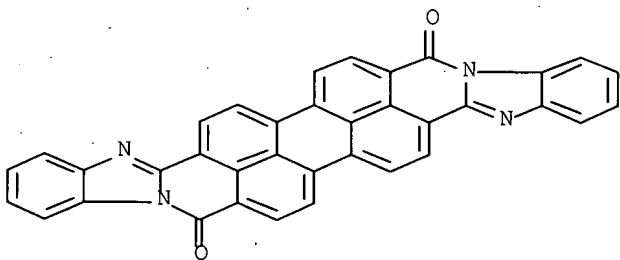
CMF C36 H16 N4 O2



CM 2

CRN 55034-79-2

CMF C36 H16 N4 O2



IC ICM C09B005-62

ICS G03G021-14; C09B003-14; C09B067-22; G03G005-06

CC 41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 74

IT Electrophotographic photoconductors (photoreceptors)

Pigments, nonbiological

(photoelec.-conversion pigment particles, manufacture and use as

electrophotog. receptors and electrophotog. imaging method using them)

IT 79534-91-1

(mixture with metallophthalocyanines; photoelec.-conversion pigment particles, manufacture and use as electrophotog. receptors and electrophotog. imaging method using them)

L26 ANSWER 19 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:585652 HCAPLUS Full-text

DOCUMENT NUMBER: 129:261804

TITLE: Stable nonaqueous trisazo pigment dispersions and manufacture thereof

INVENTOR(S): Umeda, Minoru

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10237345	A	19980908	JP 1997-54084	19970221
JP 3973256	B2	20070912		
PRIORITY APPLN. INFO.:			JP 1997-54084	19970221

OTHER SOURCE(S): MARPAT 129:261804

ED Entered STN: 15 Sep 1998

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

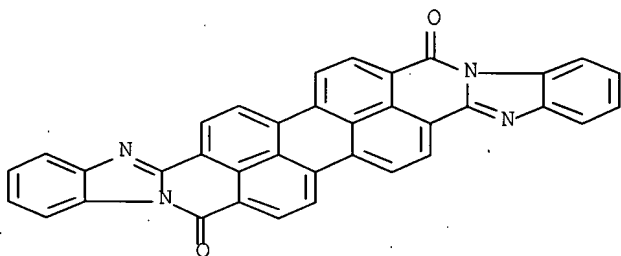
AB The title dispersions contain I having a Cu-K α X-ray diffraction peak at Bragg angle $7\pm 0.3^\circ$ with half-value width $\geq 1.2^\circ$, wherein R1, R2 = alkyl, alkoxy, halogen, dialkylamino, halomethyl, nitro, cyano, carboxy (or ester), OH, sulfonic acid salt; m = 0-5; n = 0-4. I (m = 1; n = 0; R1 = o-Et) 3, butyral resin 1, and cyclohexanone 200 parts were ball-milled at 30° .

IT 55034-79-2

(stable nonaq. trisazo pigment dispersions and manufacture thereof)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM C09B067-20
ICS C09B031-16; C09B067-46
CC 42-6 (Coatings, Inks, and Related Products)
IT Dispersion (of materials)
Pigments, nonbiological
(stable nonaq. trisazo pigment dispersions and manufacture thereof)
IT 574-93-6, Phthalocyanine 55034-79-2 63842-83-1
84809-01-8 121603-16-5 121631-93-4 191356-26-0
(stable nonaq. trisazo pigment dispersions and manufacture thereof)

L26 ANSWER 20 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:370589 HCAPLUS Full-text

DOCUMENT NUMBER: 129:68837

TITLE: Synthesis and photoelectric properties of perylene red pigments

AUTHOR(S): Liu, Dongzhi; Liu, Guangchen; Qi, Cui'e

CORPORATE SOURCE: Dept. of Applied Chemistry, Tianjin University,
Peop. Rep. China

SOURCE: Transactions of Tianjin University (1997), 3(2),
154-158

CODEN: TTUNEB; ISSN: 1006-4982

PUBLISHER: Tianjin University

DOCUMENT TYPE: Journal

LANGUAGE: English

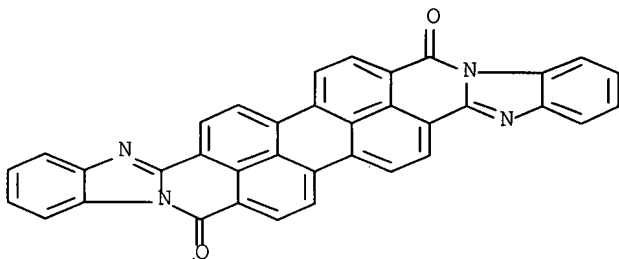
ED Entered STN: 17 Jun 1998

AB A series of N,N'-dialkyl (and diaryl)perylene-3,4:9,10- bis(dicarboximide) compds. were prepared and purified, and their photoelec. properties as organic photoconductors were explored. It is found that N,N'-dimethylperylene 3,4:9,10-bis(dicarboximide) and perylene-3,4:9,10-tetracarboxylic acid bisbenzimidazole show excellent photoconductivities; their charge acceptance reaches 700 and 485 V, the photosensitivity is 45 and 10 lx·s, and dark decay is 70 and 60 V/s, resp. The introduction of chlorine atoms can improve the photoelec. properties. SEM analyses also show that the dispersion of pigment in organic photoconductors i could affect its photosensitivity.

IT 55034-79-2DP, chlorinated 55034-79-2P
(synthesis and photoelec. properties of perylene red pigments)

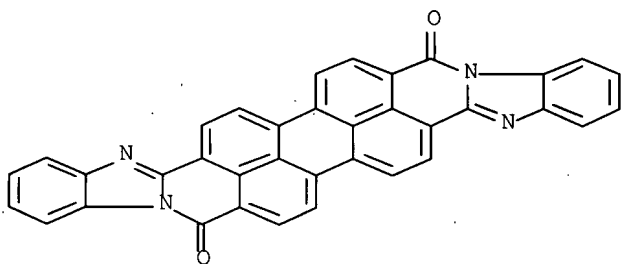
RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



CC 41-11 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 76

IT **Pigments, nonbiological**

(red; synthesis and photoelec. properties of perylene-based)

IT 128-69-8DP, C.I. Pigment Red 224, chlorinated 128-69-8P, C.I. Pigment Red 224 5521-31-3DP, C.I. Pigment Red 179, chlorinated 5521-31-3P, C.I. Pigment Red 179 6424-77-7P, C.I. Pigment Red 190 24108-89-2P, C.I. Pigment Red 123 **55034-79-2DP**, chlorinated **55034-79-2P**

(synthesis and photoelec. properties of perylene red pigments)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 21 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:275011 HCAPLUS Full-text

DOCUMENT NUMBER: 129:21451

TITLE: Electrophotographic photoreceptor characterized by the underlayer and electrophotographic apparatus

INVENTOR(S): Nukada, Hidemi

PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10115945	A	19980506	JP 1996-270701	19961014
PRIORITY APPLN. INFO.:			JP 1996-270701	19961014

ED Entered STN: 13 May 1998

AB The photoreceptor comprises a photosensitive layer on an elec. conductive support, in which an underlayer between the support and the photosensitive layer contains at least a electron-transporting pigment and a water-soluble resin. The electrophotog. apparatus involves the obtained photoreceptor. The photoreceptor shows superior environmental stability, durability, and elec. properties in repeated use.

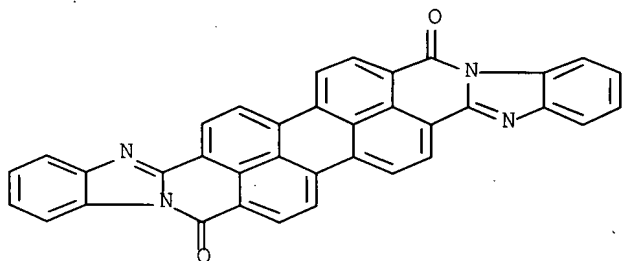
IT **55034-79-2**

(electrophotog. photoconductor having underlayer containing water-soluble polymer and electron-transporting pigment between photosensitive

layer and support)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM G03G005-14

ICS G03G005-14; G03G005-06; G03G015-02

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Electrophotographic apparatus

Electrophotographic photoconductors (photoreceptors)

Pigments, nonbiological

(electrophotog. photoconductor having underlayer containing water-soluble polymer and electron-transporting pigment between photosensitive layer and support)

IT 4378-61-4, Monolite Red 2Y 55034-79-2 55034-81-6

67075-37-0 116221-07-9

(electrophotog. photoconductor having underlayer containing water-soluble polymer and electron-transporting pigment between photosensitive layer and support)

L26 ANSWER 22 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:555404 HCAPLUS Full-text

DOCUMENT NUMBER: 127:206939

TITLE: Direct one-step dimerization of condensed polynuclear aromatic compounds

INVENTOR(S): Sakamoto, Takaaki; Yonehara, Yoshitomo; Boku, Shoshin

PATENT ASSIGNEE(S): Kawamura Rikagaku Kenkyusho, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09194746	A	19970729	JP 1996-73857	19960328
PRIORITY APPLN. INFO.:			JP 1995-294142	A 19951113

OTHER SOURCE(S): CASREACT 127:206939

ED Entered STN: 30 Aug 1997

AB The title process for making **dyes** and **pigments** and electronic materials is carried out in a system containing alkali metal hydroxide and/or alkoxide and

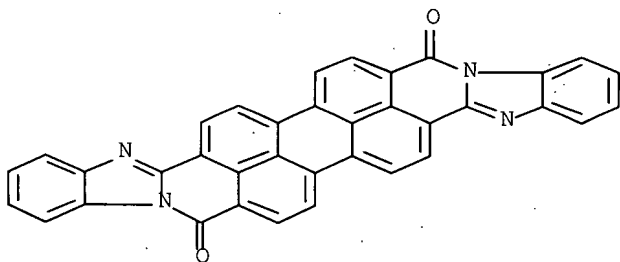
azabicyclo ring-containing organic base. A mixture of tert-BuOK, 1,5-diazabicyclo[4.3.0]non-5-ene, and diglyme was stirred at 170° for 1 h under N atmospheric, treated with 1,8-naphthalimide at the same temperature for 8 h to obtain perylene-3,4,9,10-tetracarboxylic diimide in 99% yield.

IT 55034-79-2P

(direct one-step dimerization of condensed polynuclear aromatic compds.)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM C09B003-00

ICS C07D487-04

CC 41-9 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

IT 81-33-4P, Perylene-3,4,9,10-tetracarboxylic diimide 128-64-3P, Isoviolanthrone 188-93-2P 1324-55-6P, Dichloroisoviolanthrone 3049-71-6P 4051-63-2P, 4,4'-Diamino-1,1'-dianthraquinonyl 4948-15-6P 5521-31-3P, N,N'-Dimethylperylene-3,4,9,10-tetracarboxylic diimide 6424-77-7P, N,N'-Bis(p-methoxyphenyl)perylene-3,4,9,10-tetracarboxylic diimide 41572-86-5P 52000-81-4P 55034-79-2P 194610-50-9P 194610-51-0P 194610-53-2P

(direct one-step dimerization of condensed polynuclear aromatic compds.)

L26 ANSWER 23 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:395912 HCAPLUS Full-text

DOCUMENT NUMBER: 127:101662

TITLE: Organic **pigment** nanoparticle thin film devices via Lewis acid **pigment** solubilization (LAPS)

AUTHOR(S): Hsieh, B. R.; Melnyk, A. R.

CORPORATE SOURCE: Xerox Corporation, Webster, NY, 14580, USA

SOURCE: Annual Technical Conference - Society of Plastics Engineers (1997), 55th(Vol. 2), 1394-1397
CODEN: ACPED4; ISSN: 0272-5223

PUBLISHER: Society of Plastics Engineers

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 26 Jun 1997

AB We introduce a **pigment** processing approach, namely Lewis acid **pigment** solubilization (LAPS), for the fabrication of organic **pigment** thin film devices. The LAPS process involved the solubilization of an organic **pigment** in a Lewis acid/nitromethane solution. The resulting solution was used to

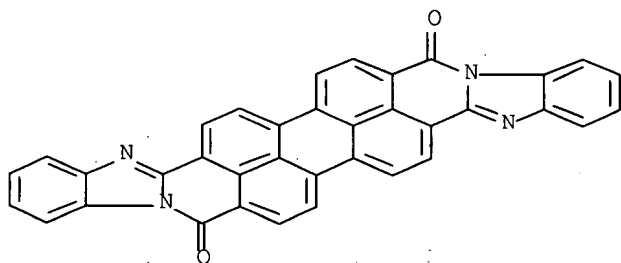
solvent cast **pigment**/Lewis acid thin films, which were then washed with aqueous solns. to remove the Lewis acid and give the final **pigmented** layers. We are amazed by the fact that many heterocyclic **pigment** classes can be processed like **dyes** at mol. level through LAPS. One should be able to fabricate a wide range of organic **pigment** thin films devices via LAPS, as we have demonstrated in this paper for the fabrication of organic photoconductors.

IT 55034-79-2

(Lewis acid solubilization of **pigment** nanoparticles for fabrication of electrophotog. multilayered photoconductors)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 42

ST Lewis acid **pigment** solubilization nanoparticle film; electrophotog photoconductor Lewis acid **pigment** solubilization

IT Electrophotographic photoconductors (photoreceptors)
Pigments, nonbiological

(Lewis acid solubilization of **pigment** nanoparticles for fabrication of electrophotog. multilayered photoconductors)

IT Lewis acids

(Lewis acid solubilization of **pigment** nanoparticles for fabrication of electrophotog. multilayered photoconductors)

IT 65181-78-4, TPD

(Lewis acid solubilization of **pigment** nanoparticles for fabrication of electrophotog. multilayered photoconductors)

IT 55034-79-2

(Lewis acid solubilization of **pigment** nanoparticles for fabrication of electrophotog. multilayered photoconductors)

IT 75-09-2, Methylene chloride, uses 75-52-5, Nitromethane, uses

(Lewis acid solubilization of **pigment** nanoparticles for fabrication of electrophotog. multilayered photoconductors)

IT 7446-70-0, Aluminum trichloride, processes

(Lewis acid solubilization of **pigment** nanoparticles for fabrication of electrophotog. multilayered photoconductors)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 24 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:244891 HCAPLUS Full-text

DOCUMENT NUMBER: 124:329753
 TITLE: Pigment nanoparticle thin film devices via Lewis acid pigment solubilization (LAPS)
 AUTHOR(S): Hsieh, B. R.; Melnyk, A. R.
 CORPORATE SOURCE: Xerox Corporation, Webster, NY, 14580, USA
 SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1996), 37(1), 735-6
 CODEN: ACPPAY; ISSN: 0032-3934
 PUBLISHER: American Chemical Society, Division of Polymer Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English

ED Entered STN: 25 Apr 1996

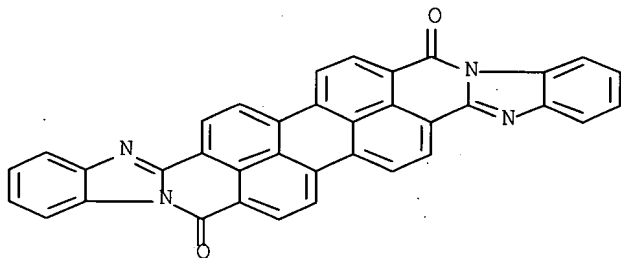
AB A Lewis acid pigment solubilization (LAPS) technique is proposed for the deposition of pigmented thin films comprising pigment nanoparticles. The process involves the solubilization of a pigment in a Lewis acid/nitromethane/binder solution. The resulting solution is used to cast pigment/Lewis acid/binder thin films which, after washing away the Lewis acid, give the final pigmented layers. The method is applied to fabricating multilayered organic photoconductors using benzimidazole perylene (I)/AlCl₃/nitromethane/methylene chloride solns., Ti-Zr alloy coated Mylar substrates, 2-aminopropyltriethoxysilane blocking layer, and DuPont 49K polyester polyester layer. The average crystallite size of I in films fabricated using this technol. is approx. 50 nm. The resulting multilayer structure showed properties holding a promise for the fabrication of organic photoconductor devices.

IT 55034-79-2

(pigment nanoparticle thin film photoconductor devices via Lewis acid pigment solubilization)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



CC 76-5 (Electric Phenomena)
 Section cross-reference(s): 74

IT **Pigments**

(pigment nanoparticle thin film photoconductor devices via Lewis acid pigment solubilization)

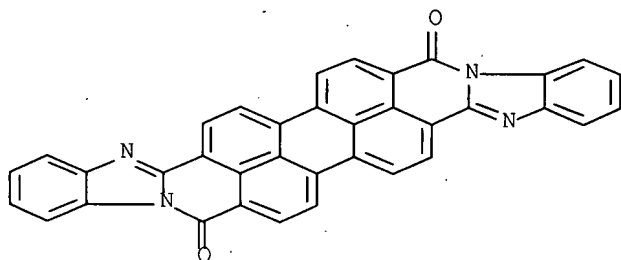
IT 12741-16-1 55034-79-2 55034-81-6

(pigment nanoparticle thin film photoconductor devices via Lewis acid pigment solubilization)

L26 ANSWER 25 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:224258 HCAPLUS Full-text

DOCUMENT NUMBER: 124:292350
 TITLE: Pigment nanoparticles thin film devices via Lewis acid pigment solubilization (LAPS) and in situ pigment dispersions
 AUTHOR(S): Hsieh, B. R.; Melnyk, A. R.
 CORPORATE SOURCE: Xerox Corporation, Webster, NY, 14580, USA
 SOURCE: Polymeric Materials Science and Engineering (1996), 74, 412-13
 CODEN: PMSEDG; ISSN: 0743-0515
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 17 Apr 1996
 AB The process involved the solubilization of a pigment in a Lewis acid-nitromethane solution. The resulting pigment-AlCl₃ solution was poured into a homogenizing aqueous solution to form a suspension of pigment nanocrystallites which were then collected as a wet cake. Addition of solvents to the wet cake followed by short time ball milling gave an in-situ pigment dispersion. The use of the in-situ pigment dispersion to fabricate multilayered organic photoconductors using benzimidazole perylene with good sensitivity, high cyclic stability, low dark decay, and residual charges was demonstrated.
 IT 55034-79-2
 (photoconductors; pigment nanoparticles thin film devices via Lewis acid pigment solubilization and in situ pigment dispersions)
 RN 55034-79-2 HCAPLUS
 CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)

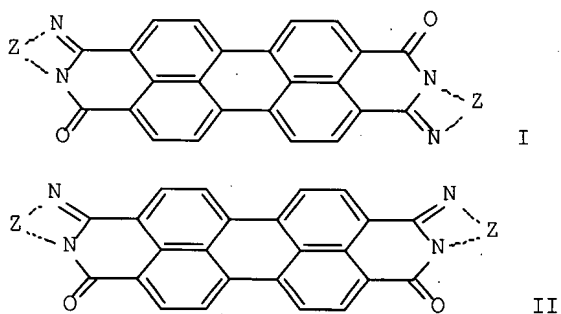


CC 42-6 (Coatings, Inks, and Related Products)
 IT Photoconductors
 Pigments
 Solubilization
 (pigment nanoparticles thin film devices via Lewis acid pigment solubilization and in situ pigment dispersions)
 IT 55034-79-2 55034-81-6
 (photoconductors; pigment nanoparticles thin film devices via Lewis acid pigment solubilization and in situ pigment dispersions)
 L26 ANSWER 26 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1996:169399 HCAPLUS Full-text
 DOCUMENT NUMBER: 124:274439
 TITLE: Image formation using perylene pigment
 -containing electrophotographic photoreceptor
 INVENTOR(S): Ooshiba, Takeo; Matsushima, Asao; Eto, Yoshihiko
 PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08006278	A	19960112	JP 1994-140363	19940622
US 5589314	A	19961231	US 1995-490781	19950615
PRIORITY APPLN. INFO.:			JP 1994-140363	A 19940622

OTHER SOURCE(S): MARPAT 124:274439
 ED Entered STN: 22 Mar 1996
 GI



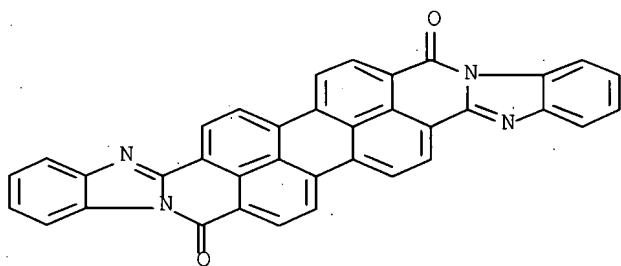
AB The title method involves the steps of charging a photoreceptor comprising an elec. conductive support coated with a photosensitive layer containing ≥ 1 perylene **dye** selected from I and II [Z = atomic group forming (substituted) heterocyclic group] having Cu-K α x-ray diffraction peaks at $6.3 \pm 0.3^\circ$, $12.4 \pm 0.2^\circ$ (maximum), $25.3 \pm 0.2^\circ$, and $27.1 \pm 0.2^\circ$, peak half-width $\geq 0.65^\circ$, and no peaks at $11.5 \pm 0.2^\circ$ as a charge-generating compound and exposing using a filter with light transmission $\geq 50\%$ at 600 nm and $\leq 50\%$ at 680 nm for $1 + 10^{-4}$ - $2 + 10^{-2}$ s to form electrostatic latent images. This method gives high-d. images with high sensitivity and good durability.

IT 55034-79-2P

.(image formation using electrophotog. photoreceptor containing perylene **dye** as charge-generating compound with high sensitivity and good durability)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)

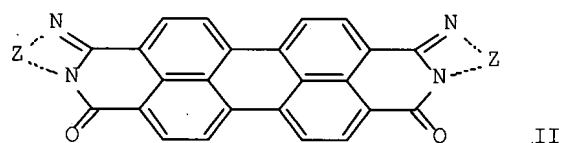
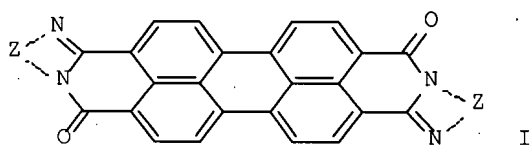


- IC ICM G03G005-06
ICS G03G005-06; G03G013-04; G03G015-04; G03G015-043
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 28
- IT Electrophotographic photoconductors and photoreceptors
(image formation using electrophotog. photoreceptor containing perylene **dye** as charge-generating compound with high sensitivity and good durability)
- IT 133878-83-8 168552-27-0
(charge-transporting substance; image formation using electrophotog. photoreceptor containing perylene **dye** as charge-generating compound with high sensitivity and good durability)
- IT 55034-79-2P 55034-81-6P
(image formation using electrophotog. photoreceptor containing perylene **dye** as charge-generating compound with high sensitivity and good durability)
- IT 95-54-5, o-Phenylenediamine, reactions 128-69-8,
Perylene-3,4,9,10-tetracarboxylic dianhydride
(image formation using electrophotog. photoreceptor containing perylene **dye** as charge-generating compound with high sensitivity and good durability)
- IT 78-93-3, Methyl ethyl ketone, uses 107-06-2, 1,2-Dichloroethane,
uses 109-99-9, Tetrahydrofuran, uses
(solvent; image formation using electrophotog. photoreceptor containing perylene **dye** as charge-generating compound with high sensitivity and good durability)

L26 ANSWER 27 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:169398 HCAPLUS Full-text
DOCUMENT NUMBER: 124:274438
TITLE: Image formation using perylene **pigment**
-containing electrophotographic photoreceptor
INVENTOR(S): Ooshiba, Takeo; Takei, Yoshiaki
PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08006277	A	19960112	JP 1994-140362	19940622
PRIORITY APPLN. INFO.:			JP 1994-140362	19940622

OTHER SOURCE(S): MARPAT 124:274438
 ED Entered STN: 22 Mar 1996
 GI



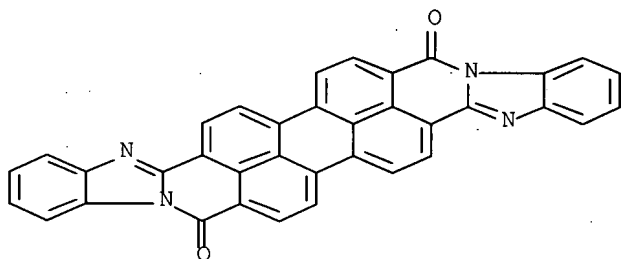
AB The title method involves the steps of charging a photoreceptor comprising an elec. conductive support coated with a photosensitive layer containing ≥ 1 perylene **dye** selected from I and II [Z = atomic group forming (substituted) heterocyclic group] having Cu-K α x-ray diffraction peaks at $6.3 \pm 0.3^\circ$, $12.4 \pm 0.2^\circ$ (maximum), $25.3 \pm 0.2^\circ$, and $27.1 \pm 0.2^\circ$, peak half-width $\geq 0.65^\circ$, and no peaks at $11.5 \pm 0.2^\circ$ as a charge-generating compound and exposing using a filter with light transmission $\geq 50\%$ at 600 nm and $\leq 50\%$ at 680 nm to form electrostatic latent images. This method gives high-d. images with high sensitivity and good durability.

IT 55034-79-2P

(image formation using electrophotog. photoreceptor containing perylene **dye** as charge-generating compound with high sensitivity and good durability)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM G03G005-06
 ICS G03G015-04

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes).
 Section cross-reference(s): 28

IT Electrophotographic photoconductors and photoreceptors

(image formation using electrophotog. photoreceptor containing perylene dye as charge-generating compound with high sensitivity and good durability)

IT 55034-79-2P 55034-81-6P

(image formation using electrophotog. photoreceptor containing perylene dye as charge-generating compound with high sensitivity and good durability)

IT 95-54-5, o-Phenylenediamine, reactions 128-69-8, Perylene-3,4,9,10-tetracarboxylic dianhydride

(image formation using electrophotog. photoreceptor containing perylene dye as charge-generating compound with high sensitivity and good durability)

IT 78-93-3, Methyl ethyl ketone, uses 107-06-2, 1,2-Dichloroethane, uses 109-99-9, Tetrahydrofuran, uses

(solvent; image formation using electrophotog. photoreceptor containing perylene dye as charge-generating compound with high sensitivity and good durability)

L26 ANSWER 28 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:546011 HCAPLUS Full-text

DOCUMENT NUMBER: 122:316902

TITLE: Design and synthesis of near-infrared absorbing pigments. II. Structure determination of acenanthrene green and derivatives

AUTHOR(S): Deselets, Denis; Kazmaier, Peter M.; Burt, Richard A.; Hamer, Gordon K.

CORPORATE SOURCE: Xerox Res. Cent. Canada, Mississauga, ON, L5K 2L1, Can.

SOURCE: Canadian Journal of Chemistry (1995), 73(3), 325-35

CODEN: CJCHAG; ISSN: 0008-4042

PUBLISHER: National Research Council of Canada

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 May 1995

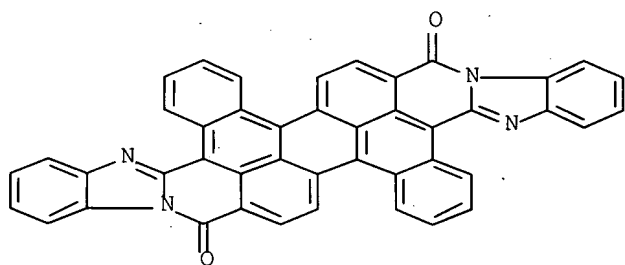
AB The reported structure of acenanthrene green, a pigment prepared by KOH fusion of 1,9-anthracenedicarboximide, was found to be incorrect. The structure of the pigment was reassigned to 7,8,15,16- dibenzo[a,j]perylene-tetracarboxylic diimide on the basis of COSY, NOESY, and inversion-recovery 1H NMR expts. N-alkyl- or N-phenyl-1,9-anthracenedicarboximides, acenanthryleno[1,2-b]quinoxaline, and a benzimidazole derivative of 1,9- anthracenedicarboxylic anhydride were found to give the same dibenzo[a,j]perylene structure when reacted in KOH. The electronic spectra of these derivs. were reported and, as predicted by PPP calcs. they absorbed in the near-IR. A mechanistic outline for the fusion was proposed on the basis of AM1 and frontier MO calcs.

IT 163685-86-7P

(preparation and structure determination of acenanthrene green and derivs.)

RN 163685-86-7 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']dibenz[h,h']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-12,25-dione (9CI) (CA INDEX NAME)



CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

IT **Pigments**

(IR-absorbing, near-IR; preparation and structure determination of acenanthrene green and derivs.)

IT **163685-86-7P** 163685-88-9P, N-Methyl-1,9-Anthracenedicarboxylic imide 163685-89-0P, N-Propyl-1,9-Anthracenedicarboxylic imide 163685-90-3P, N-Phenyl-1,9-Anthracenedicarboxylic imide 163685-91-4P 163685-92-5P 163685-93-6P

(preparation and structure determination of acenanthrene green and derivs.)

L26 ANSWER 29 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:491998 HCAPLUS Full-text

DOCUMENT NUMBER: 122:242310

TITLE: Thermally stable, lightfast dichroic light polarizers and manufacture of light-polarizing elements

INVENTOR(S): Gvon, Khan Ir; Bobrov, Yuri A.; Bykov, Victor A.; Ignatov, Leonid Y.; Ivanova, Tatiana D.; Popov, Sergei I.; Shishkina, Elena Y.; Vorozhtsov, Georgiy N.

PATENT ASSIGNEE(S): Russian Technology Group, USA

SOURCE: PCT Int. Appl., 51 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9428073	A1	19941208	WO 1994-US5493	19940520
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
RU 2047643	C1	19951110	RU 1993-27586	19930521
EP 700420	A1	19960313	EP 1994-919152	19940520
R: CH, DE, FR, GB, IT, LI, NL, SE				
JP 08511109	T	19961119	JP 1995-500751	19940520
JP 3492693	B2	20040203		
US 5739296	A	19980414	US 1995-556917	19951120
PRIORITY APPLN. INFO.:			RU 1993-27586	A 19930521
			WO 1994-US5493	W 19940520

OTHER SOURCE(S): MARPAT 122:242310

ED Entered STN: 18 Apr 1995

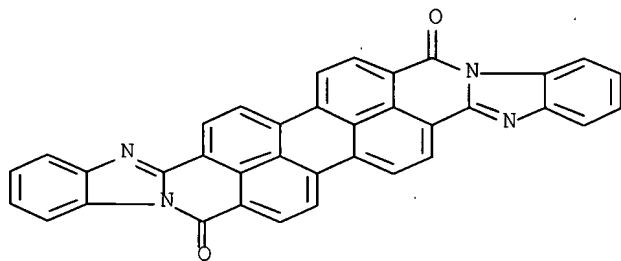
AB Polarizing coatings are formed from water-soluble **dyes** which provide a stable liquid-crystalline phase over a wide range of concns., temps., and pH values. Particles formed by aggregates of the liquid-crystalline mols. are oriented in a predetd. direction to polarize light. The stability of the liquid crystalline state allows orienting the particles by mech. forces such as shear applied when the liquid crystal is spread on a support surface or a tensile deformation force acting on the meniscus of the liquid crystal deposited between two surfaces as the surfaces are peeled off one another. Thus, a solution of indanthrene in ClSO₃H was stirred at 80-90° for 11-12 h, cooled and diluted with H₂O; the precipitate was suspended in concentrated HCl and heated 1 h at 90°, then filtered to give 3-chloroindanthrene-4,4'-disulfonic acid, a 12% aqueous solution of which showed a liquid-crystalline phase. Coating the **dye** solution onto a poly(ethylene terephthalate) film at high shear gave a polarizer with dichroic ratio 22.0 at λ_{\max} 645 nm and transmittance 42%.

IT 55034-79-2DP, sulfonated

(preparation of thermally stable, lightfast dichroic light polarizers)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)

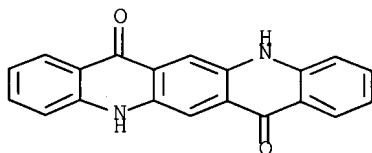


IT 1047-16-1, Quinacridone

(preparation of thermally stable, lightfast dichroic light polarizers)

RN 1047-16-1 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro- (CA INDEX NAME)



IC ICM C09B031-147

ICS C09B031-30; C09B033-18; C09B035-50; C09B005-02; C09B025-00;
C09B003-74; C09B057-00; C09K019-56; C09K019-58; C09K019-30;
C09K019-32; C09K019-34

CC 41-4 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 73, 75

ST dichroic **dye** light polarizer; indanthrene **dye** soln
liq cryst

IT Liquid crystals
(dichroic **dyes**; thermally stable, lightfast dichroic
light polarizers and manufacture of light-polarizing elements)

IT **Dyes**
(dichroic, liquid-crystalline; thermally stable, lightfast dichroic light
polarizers and manufacture of light-polarizing elements)

IT 128-65-4DP, 3,4,9,10-Perylenetetracarboxylic acid bis(phenylimide),
sulfonated 188-97-6DP, dibenzimidaza diketo derivative, sulfonated
4216-02-8DP, sulfonated 4424-06-0DP, sulfonated 6424-77-7DP,
sulfonated 27820-67-3DP, sulfonated **55034-79-2DP**,
sulfonated 55034-81-6DP, sulfonated 56813-70-8DP, sulfonated
162276-38-2DP, sulfonated 162276-39-3P 162293-93-8P 162293-94-9P
162293-95-0P 162341-46-0P
(preparation of thermally stable, lightfast dichroic light polarizers)

IT 81-77-6, Indanthrene **1047-16-1**, Quinacridone 24259-89-0,
1,4,5,8-Naphthalenetetracarboxylic acid bis(phenylimide)
(preparation of thermally stable, lightfast dichroic light polarizers)

L26 ANSWER 30 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:441589 HCAPLUS Full-text

DOCUMENT NUMBER: 122:252086

TITLE: Electrophotographic photoreceptor containing
perylene-tetracarboxylic diimide derivative
charge-transporting agent

INVENTOR(S): Kurosu, Hisao; Yoshikawa, Masao; Yamada, Ikuko;
Kojima, Akio

PATENT ASSIGNEE(S): Ricoh Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

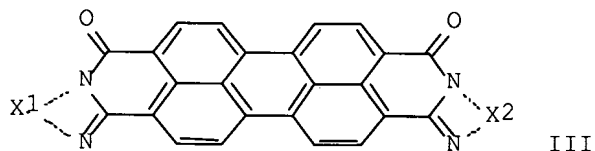
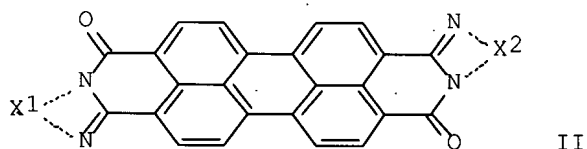
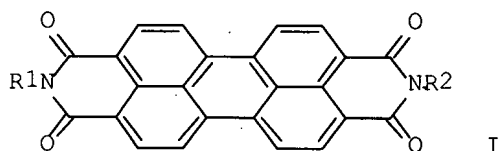
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 07005715	A	19950110	JP 1993-169766	19930616
JP 3230548	B2	20011119		
PRIORITY APPLN. INFO.:			JP 1993-169766	19930616

ED Entered STN: 25 Mar 1995

GI



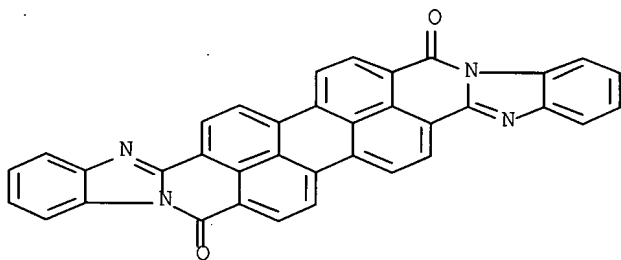
AB The electrophotog. photoreceptor, where a charge-transporting agent and a charge-generating agent are individually contained in the laminated component layer, contains a nonmetal phthalocyanine **pigment** as a charge-generating agent which is dissolved with a perylenetetracarboxylic diimide compound I [R1, R2 = H, (substituted) alkyl, aryl] and granulated from a solvent. The perylenetetracarboxylic diimide compound may be II or III [X1, X2 = divalent (substituted) condensed ring system or heterocycle]. The photoreceptor shows high photoresponse to visible to IR light.

IT 55034-79-2

(electrophotog. photoreceptor containing granulated mixture of phthalocyanine **dye** and perylenetetracarboxylic diimide charge-transporting agent)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM G03G005-06

ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Electrophotographic photoconductors and photoreceptors
(electrophotog. photoreceptor containing granulated mixture of

phthalocyanine **dye** and perylenetetracarboxylic diimide
charge-transporting agent)

IT 574-93-6, Phthalocyanine 52000-75-6 **55034-79-2**
55034-81-6

(electrophotog. photoreceptor containing granulated mixture of
phthalocyanine **dye** and perylenetetracarboxylic diimide
charge-transporting agent)

L26 ANSWER 31 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:499877 HCAPLUS Full-text

DOCUMENT NUMBER: 119:99877

TITLE: Photovoltaic device containing organic material
layers and having high conversion efficiency

INVENTOR(S): Yoshikawa, Masao; Suzuki, Tetsurou

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: U.S., 11 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 5201961	A	19930413	US 1991-703723	19910521
JP 03263380	A	19911122	JP 1990-131319	19900523
PRIORITY APPLN. INFO.:			JP 1990-131319	A 19900523
			JP 1989-304783	A1 19891127
			JP 1989-323885	A1 19891215
			JP 1989-323886	A1 19891215
			JP 1990-31404	A1 19900214
			JP 1990-31405	A1 19900214

ED Entered STN: 04 Sep 1993

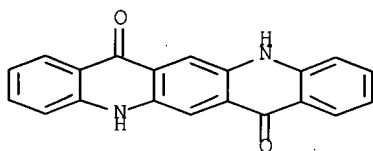
AB The device contains, from their light-incident side, a 1st layer of an organic electron acceptor (e.g., perylene tetracarboxylic acid bismethylimide), a 2nd layer of an organic electron donor (e.g., chloroaluminumphthalocyanine), and a 3rd layer of an organic electron donor different from that in the 2nd layer disposed between an electrode and a light transmitting electrode. Another type of the device has a 1st layer of an electron donor, and the 2nd and 3rd layers of different electron acceptors.

IT **1047-16-1, Quinacridone 79534-91-1**

(photovoltaic devices containing layers of, high-conversion efficiency)

RN 1047-16-1 HCAPLUS

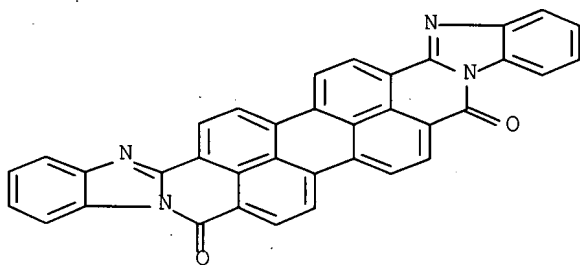
CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro- (CA INDEX NAME)



RN 79534-91-1 HCAPLUS
 CN Bisbenzimidazo[2,1-a:1',2'-b']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-6,11-dione, mixt. with bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione
 (CA INDEX NAME)

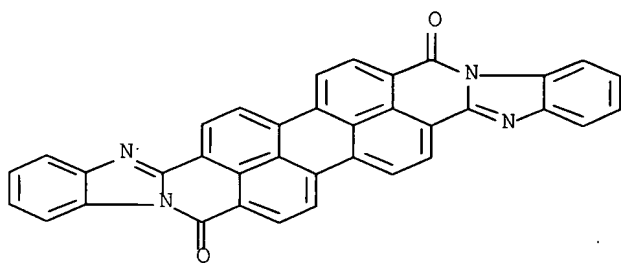
CM 1

CRN 55034-81-6
 CMF C36 H16 N4 O2



CM 2

CRN 55034-79-2
 CMF C36 H16 N4 O2



IC ICM H01L031-06
 ICS H01L031-0344
 INCL 136263000
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 IT 147-14-8, Copper phthalocyanine 574-93-6, Phthalocyanine 980-26-7,
 2,9-Dimethylquinacridone 1047-16-1, Quinacridone 4378-61-4
 4424-06-0 5521-31-3 14154-42-8 14320-04-8, Zinc phthalocyanine
 15187-16-3, Lead phthalocyanine 25233-30-1, Polyaniline
 26201-32-1, Titanyl phthalocyanine 30604-81-0 70581-42-9
 73276-71-8 **79534-91-1** 104934-50-1, Poly(3-hexylthiophene)
 108443-85-2, Poly(N,N'-diphenylbenzidine) 123790-72-7 149220-02-0
 (photovoltaic devices containing layers of, high-conversion efficiency)

L26 ANSWER 32 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1992:452450 HCAPLUS Full-text

DOCUMENT NUMBER: 117:52450

TITLE: Organic solar cells

INVENTOR(S): Shichiri, Norishige; Inoue, Takeshi; Suezaki, Minoru; Minami, Shinji; Asai, Michihiko

PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology, Japan; Sekisui Kagaku Kogyo K. K.

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04073973	A	19920309	JP 1990-188795	19900716
PRIORITY APPLN. INFO.:			JP 1990-188795	19900716

ED Entered STN: 08 Aug 1992

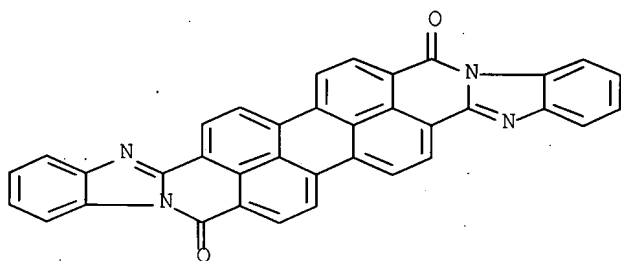
AB The solar cells have successively an n-CdS layer, an i-layer of a perylene-type pigment, and a p-layer of a quinacridone-type pigment from the light-incident side between an electrode pair with ≥ 1 electrode being transparent.

IT 55034-79-2

(photoelec. solar cells containing i-layers of)

RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC ICM H01L031-04

ICS H01L029-28

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT **Pigments**

(perylene- and quinacridone-type, solar cells containing layers of)

IT 55034-79-2 55034-81-6

(photoelec. solar cells containing i-layers of)

L26 ANSWER 33 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1992:110124 HCAPLUS Full-text

DOCUMENT NUMBER: 116:110124

TITLE: Tri-layer organic solar cells

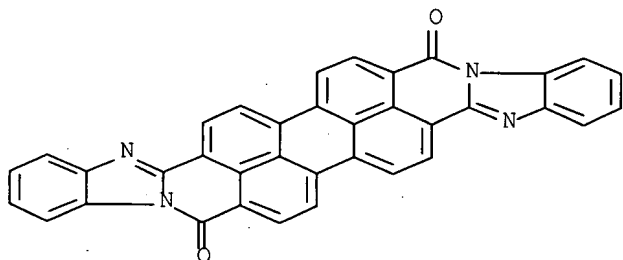
INVENTOR(S): Suezaki, Minoru; Inoue, Takeshi; Shichiri, Norishige

PATENT ASSIGNEE(S): Sekisui Chemical Co. Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03241778	A	19911028	JP 1990-39478	19900219
PRIORITY APPLN. INFO.:			JP 1990-39478	19900219

ED Entered STN: 20 Mar 1992
 AB The title cells have successive layers of CdS, a perylene derivative **pigment**, and a phthalocyanine derivative **pigments** between an electrode pair comprising ≥ 1 transparent electrode. The solar cells have high output voltage and conversion efficiency.
 IT 55034-79-2
 (photoelec. solar cells containing layers of, cadmium sulfide, for efficiency)
 RN 55034-79-2 HCAPLUS
 CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC .ICM H01L031-04
 ICS H01L029-28
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST solar cell cadmium sulfide **pigment**; perylene **pigment**
 solar cell; phthalocyanine **pigment** solar cell
 IT Photoelectric devices, solar
 (cadmium sulfide, containing perylene and phthalocyanine **pigments**, for efficiency)
 IT **Dyes**
 (perylene derivs. and phthalocyanine derivs., solar cells containing layers of, cadmium sulfide, for efficiency)
 IT 55034-79-2
 (photoelec. solar cells containing layers of, cadmium sulfide, for efficiency)
 IT 1306-23-6P, Cadmium sulfide, preparation
 (photoelec. solar cells, perylene and phthalocyanine **pigments** in, for efficiency)
 IT 574-93-6, Phthalocyanine
 (**pigment**, photoelec. solar cells containing layers of, cadmium sulfide, for efficiency)

L26 ANSWER 34 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1992:87718 HCAPLUS Full-text
 DOCUMENT NUMBER: 116:87718
 TITLE: Stable organic solar cells with excellent energy conversion efficiency
 INVENTOR(S): Shichiri, Norishige; Inoue, Takeshi; Suezaki, Minoru
 PATENT ASSIGNEE(S): Sekisui Chemical Co. Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 03241779	A	19911028	JP 1990-39479	19900219
JP 08010767	B	19960131		
PRIORITY APPLN. INFO.:			JP 1990-39479	19900219

ED Entered STN: 06 Mar 1992

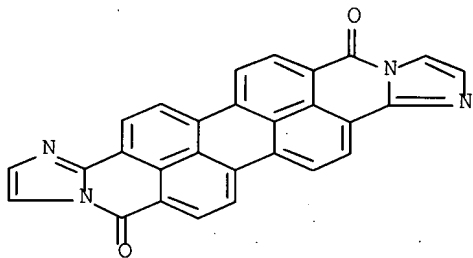
AB The cells comprise 1st layer of elec. conductive polymers, 2nd of organic **pigments**, and 3rd of inorg. semiconductor sandwiched between 2 electrodes. Thus, a solar cell comprising vapor-deposited ITO on glass substrate having layers of poly(3-methylthiophene), 3,4,9,10-perylenetetracarboxylic acid bis(imidazole), and CdS, and a top Au electrode. The cell was durable and showed 0.07% energy conversion efficiency when irradiated with white light of 70 mW/cm².

IT 49610-28-8

(photoelec. solar cells containing layer of)

RN 49610-28-8 HCAPLUS

CN Diimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-8,17-dione (9CI) (CA INDEX NAME)



IC ICM H01L031-04

ICS H01L029-28

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38

ST solar cell org; **pigment** org solar cell; polymethylthiophene
 solar cell; methylthiophene polymer solar cell;
 perylenetetracarboxylic acid imidazole solar cell; cadmium sulfide org
 solar cell

IT **Dyes**

(photoelec. solar cells containing)

IT 5521-31-3, N,N'-Dimethyl-3,4,9,10-perylenetetracarboxylic acid diimide
 49610-28-8 84928-92-7, Poly(3-methylthiophene)
 (photoelec. solar cells containing layer of)

L26 ANSWER 35 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1989:523744 HCAPLUS Full-text

DOCUMENT NUMBER: 111:123744

TITLE: Photoconductive film containing bisazo pigment for electrophotographic photoreceptor

INVENTOR(S): Fujio, Katsunori

PATENT ASSIGNEE(S): Alps Electric Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63287955	A	19881125	JP 1987-124495	19870521
PRIORITY APPLN. INFO.:			JP 1987-124495	19870521

OTHER SOURCE(S): MARPAT 111:123744

ED Entered STN: 01 Oct 1989

GI For diagram(s), see printed CA Issue.

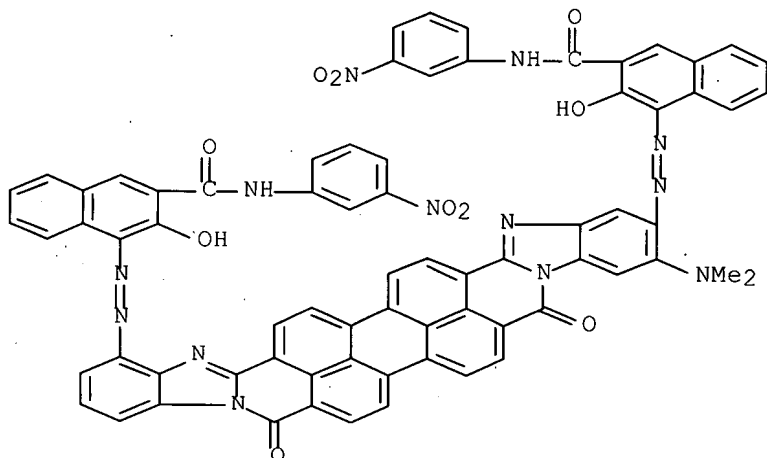
AB The title film contains ≥ 1 kind of bisazo pigments I and/or II (A = coupler residue having phenolic OH, III, C(COMe)HCONR₂; R = H, low alkyl, aryl, alkoxy carbonyl, aryloxy carbonyl, acyl, halo, monovalent organic residue; Z = atomic group necessary for forming hydrocarbon or heterocyclic aromatic ring by condensing with imidazole ring). The title photoreceptor is made by forming on an elec. conductive support a photosensitive layer having the photoconductive film.

IT 122571-98-6

(charge-generating substance, for electrophotog. photoreceptors)

RN 122571-98-6 HCAPLUS

CN 2-Naphthalenecarboxamide, 4,4'-[[3-(dimethylamino)-6,11-dihydro-6,11-dioxobisbenzimidazo[2,1-a:1',2'-b']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-2,15-diyl]bis(azo)]bis[3-hydroxy-N-(3-nitrophenyl)- (9CI) (CA INDEX NAME)



IC ICM G03G005-06
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 IT 121667-56-9 121667-57-0 121667-58-1 121667-59-2 121667-60-5
 121667-61-6 121667-62-7 121667-63-8 121667-64-9 121667-65-0
 121667-66-1 121667-67-2 121667-68-3 121667-69-4 121667-70-7
 121681-90-1 121681-91-2 121681-92-3 122571-98-6
 122571-99-7
 (charge-generating substance, for electrophotog. photoreceptors)

L26 ANSWER 36 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1988:29596 HCAPLUS Full-text
 DOCUMENT NUMBER: 108:29596
 TITLE: Dichroic **pigments** for color liquid crystals
 INVENTOR(S): Kano, Mitsuru; Kato, Yoshinori; Kamiyo, Yoshimi; Sakikubo, Yoshinari; Takeda, Yoshio; Sato, Takanori
 PATENT ASSIGNEE(S): Alps Electric Co., Ltd., Japan; Sanyo Color Works, Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62129380	A	19870611	JP 1985-268763	19851129
US 4780531	A	19881025	US 1986-933228	19861120
PRIORITY APPLN. INFO.:			JP 1985-268763	A 19851129

ED Entered STN: 23 Jan 1988

GI For diagram(s), see printed CA Issue.

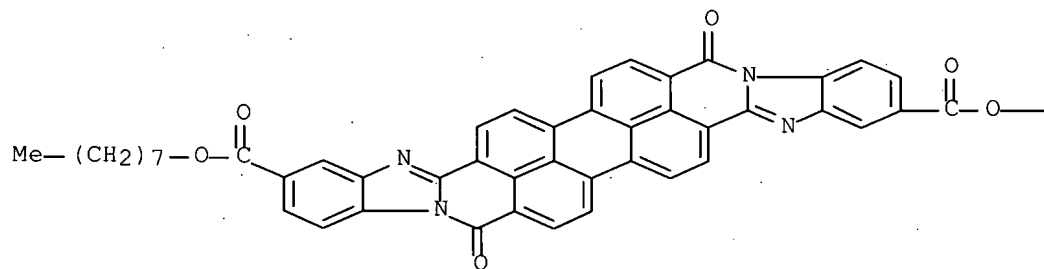
AB Dichroic **pigments** of the formula I (A, B = linear **pigment** with azo, azomethine, or ester groups; X = halo) are contained in the liquid crystal compns. The **pigments** have high dichroic ratio (CR), large absorption coefficient, and good solubility in liquid crystals; hence they are useful in guest-host-type color liquid crystal display devices. Thus, the bromoperylene derivative (II) was dissolved in a cyanobiphenyl liquid crystal composition of pos. dielec. anisotropy and packed in a cell (homogeneous alignment) to give a guest-host-type liquid crystal display device. The maximum absorption, solubility, and CR of the **pigment** were 614 nm, ≥7.0%, and 11.3, resp.

IT 112012-78-9 112012-79-0 112012-80-3
 112012-81-4 112012-82-5 112012-83-6
 112025-72-6

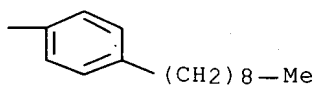
(dichroic **dyes**, for guest-host-type color liquid crystal display devices)

RN 112012-78-9 HCAPLUS

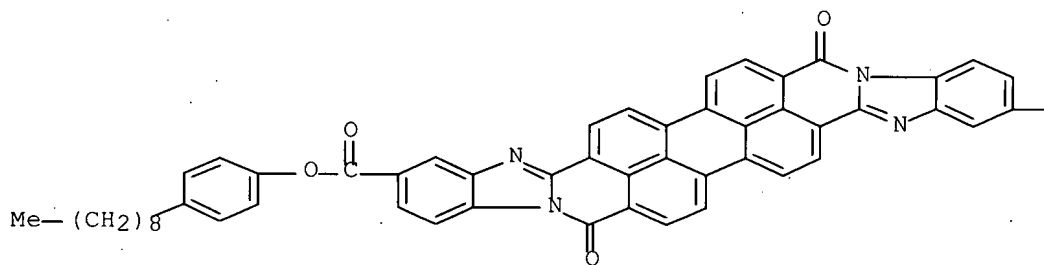
CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-3,14-dicarboxylic acid, tribromo-10,21-dihydro-10,21-dioxo-, 4-nonylphenyl octyl ester (9CI) (CA INDEX NAME)



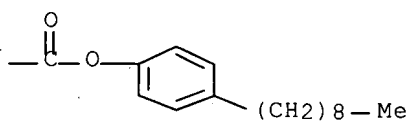
3 (D1-Br)



RN 112012-79-0 HCAPLUS
 CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-3,14-dicarboxylic acid, tribromo-10,21-dihydro-10,21-dioxo-, bis(4-nonylphenyl) ester (9CI) (CA INDEX NAME)

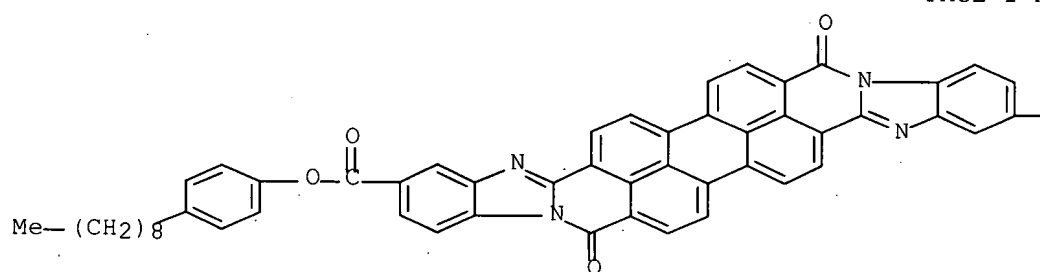


3 (D1-Br)



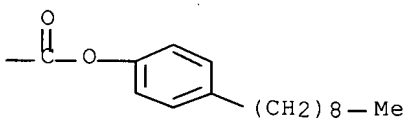
RN 112012-80-3 HCAPLUS
 CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-3,14-dicarboxylic acid, tetrabromo-10,21-dihydro-10,21-dioxo-, bis(4-nonylphenyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A

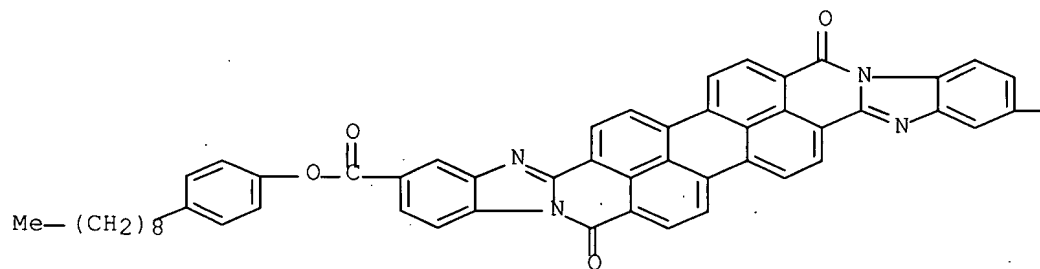


4 (D1-Br)

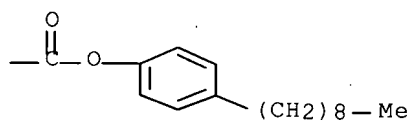
PAGE 1-B



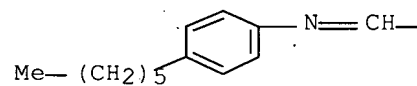
RN 112012-81-4 HCAPLUS
 CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-3,14-dicarboxylic acid, trichloro-10,21-dihydro-10,21-dioxo-, bis(4-nonylphenyl) ester (9CI) (CA INDEX NAME)



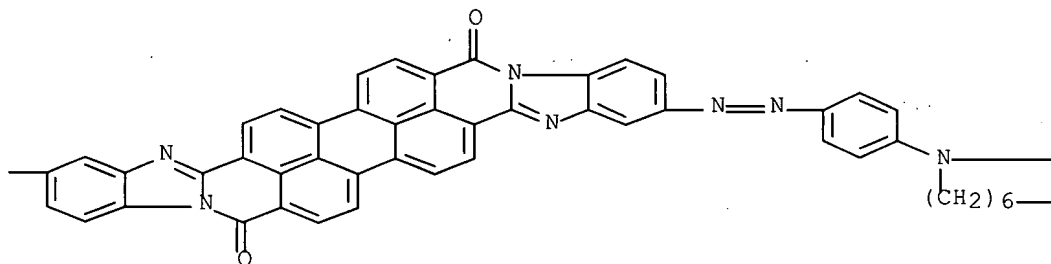
3 (D1-C1)



RN 112012-82-5 HCAPLUS
 CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione, octabromo-3-[[4-(diheptylamino)phenyl]azo]-14-[[4-(4-hexylphenyl)imino]methyl]- (9CI)
 (CA INDEX NAME)



8 (D1-Br)

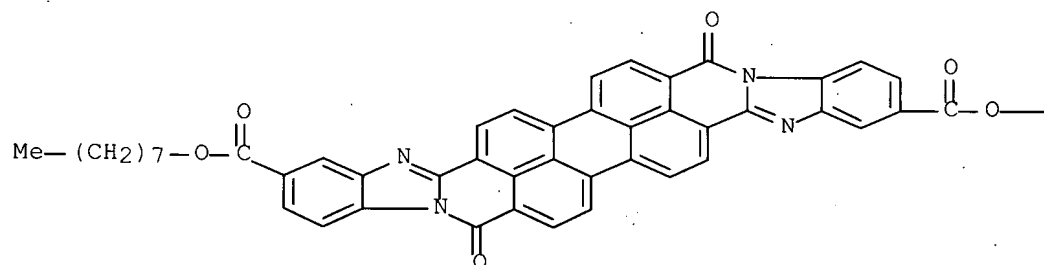


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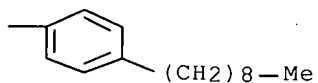
——— Me

RN 112012-83-6 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-3,14-dicarboxylic acid, decabromo-10,21-dihydro-10,21-dioxo-, 4-nonylphenyl octyl ester (9CI) (CA INDEX NAME)

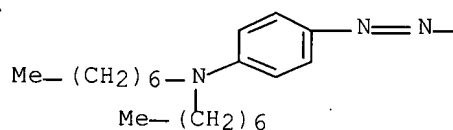


10 (D1— Br)



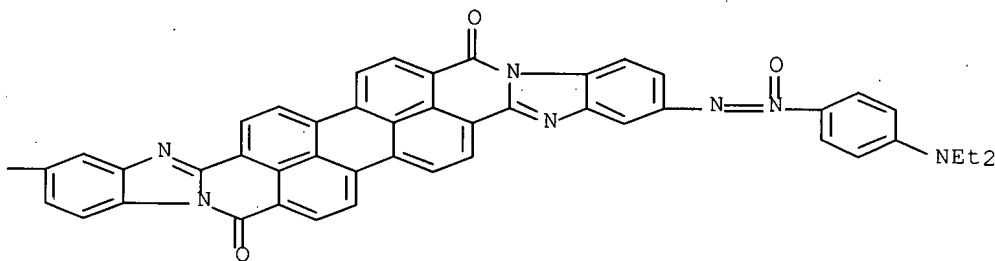
RN 112025-72-6 HCAPLUS
 CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione, pentabromo-3-[[4-(diethylamino)phenyl]-ONN-azoxy]-14-[[4-(diheptylamino)phenyl]azo]-(9CI) (CA INDEX NAME)

PAGE 1-A



5 (D1-Br)

PAGE 1-B



IC ICM C09K019-60
 ICS C07D471-22; C09B035-34; C09B055-00; C09B057-12; G02F001-137
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST dichroic pigment liq crystal display; guest host liq crystal dye; perylene azo pigment liq crystal
 IT Dyes, azo

(dichroic, perylene derivs., for color liquid crystal displays)
 IT Optical imaging devices
 (electro-, liquid-crystal, dichroic **pigments** for, perylene
 azo derivs. as)
 IT 112012-78-9 112012-79-0 112012-80-3
 112012-81-4 112012-82-5 112012-83-6
 112025-72-6
 (dichroic **dyes**, for guest-host-type color liquid crystal
 display devices)

L26 ANSWER 37 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1985:80267 HCAPLUS Full-text

DOCUMENT NUMBER: 102:80267

TITLE: Brown to black pigments

INVENTOR(S): Kleine, Fritz; Roellig, Hans; Viola, Horst

PATENT ASSIGNEE(S): VEB Chemiekombinat Bitterfeld, Ger. Dem. Rep.

SOURCE: Ger. (East), 8 pp.

CODEN: GEXXA8

DOCUMENT TYPE: Patent

LANGUAGE: German

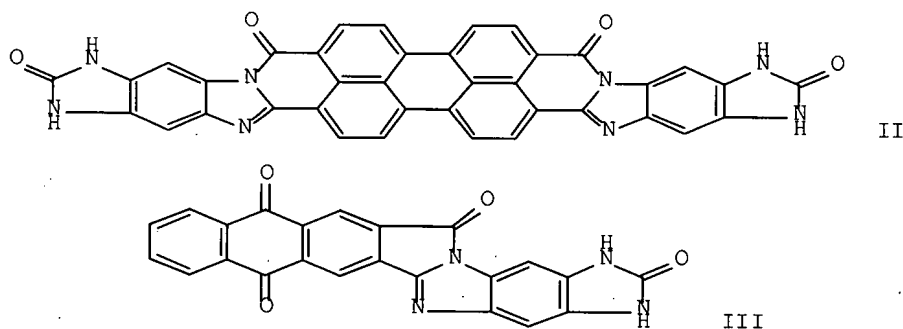
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DD 211456	A3	19840711	DD 1982-241558	19820705
PRIORITY APPLN. INFO.:			DD 1982-241558	19820705

ED Entered STN: 09 Mar 1985

GI



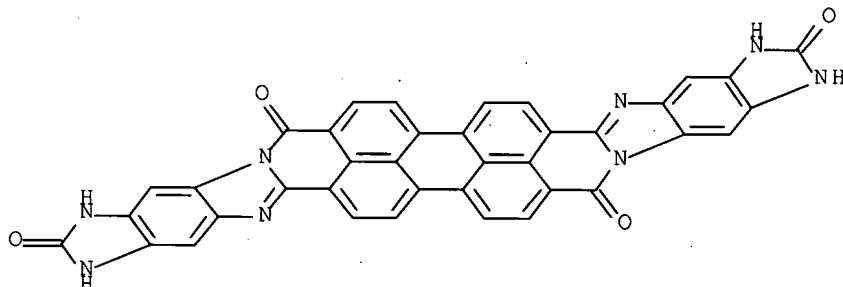
AB Brown to black pigments with good fastness to light and migration are prepared by condensing ortho- or peri-di- or bisdicarboxylic acids or their anhydrides with 5,6-diaminobenzimidazolone-HCl (I) [94665-87-9]. Thus, a mixture of 3,4,9,10-perylenetetracarboxylic acid dianhydride [128-69-8] and I in PhNO₂ containing ZnCl₂ and NaOAc was refluxed for 15-20 h to give brown-black II [94665-88-0] or its trans isomer [94665-89-1] or a mixture of the 2 isomers. Similarly, anthraquinone-2,3-dicarboxylic acid anhydride [6705-73-3] and I gave dark brown III [94665-90-4].

IT 94665-89-1P

(pigment, manufacture of)

RN 94665-89-1 HCAPLUS

CN Bisimidazo[4',5':5,6]benzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-2,10,14,22-tetrone,
1,3,13,15-tetrahydro- (9CI) (CA INDEX NAME)



IC C09B057-00; C09B057-12; C09B057-08; C09B005-62; C09B019-02; C09B067-20

CC 41-1 (Dyes, Organic Pigments, Fluorescent Brighteners, and
Photographic Sensitizers)

Section cross-reference(s): 37, 42

IT **Pigments**

(diaminobenzimidazolone cyclocondensation products with aromatic di-
and tetracarboxylic acid anhydrides, manufacture of)

IT 94665-88-0P **94665-89-1P** 94665-90-4P

(pigment, manufacture of)

L26 ANSWER 38 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1984:211628 HCAPLUS Full-text

DOCUMENT NUMBER: 100:211628

TITLE: Synthesis and properties of N-alkyl-N'-aryl-
3,4:9,10-perylenebis(dicarboximide)

AUTHOR(S): Nagao, Yukinori; Misono, Takahisa

CORPORATE SOURCE: Fac. Sci. Technol., Sci. Univ. Tokyo, Noda, 278,
Japan

SOURCE: Dyes and Pigments (1984), 5(3), 171-88

CODEN: DYPIDX; ISSN: 0143-7208

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 100:211628

ED Entered STN: 23 Jun 1984

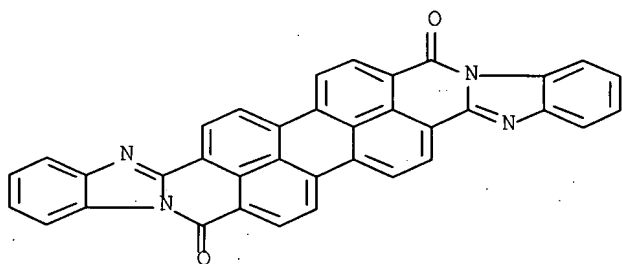
AB The title compds. (I; alkyl = iso-Bu, pentyl, hexyl, octyl, etc.; aryl = Ph,
p-tolyl, p-methoxyphenyl, etc.) were prepared by the condensation of N-alkyl-
3,4:9,10-perylenetetracarboxylic monoanhydride monoimides with arylamines
(aniline [62-53-3], p-toluidine [106-49-0], p-anisidine [104-94-9], o-
phenylenediamine [95-54-5], etc.). The properties of I as pigments were
tested, and also the thermal stability of I and of sym. and other unsym.
3,4:9,10-perylenebis(dicarboximide) derivs. was measured.

IT 55034-79-2

(thermal stability of isomeric mixture containing)

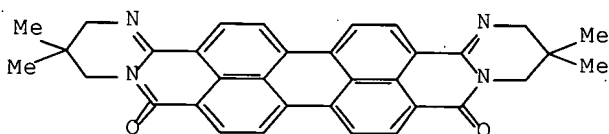
RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-
d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



CC 41-8 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
 Section cross-reference(s): 42
 IT **Pigments**
 (N-alkyl-N'-arylperylenebis(dicarboximide)s, preparation, heat stability and other properties of)
 IT **55034-79-2** 55034-81-6
 (thermal stability of isomeric mixture containing)

L26 ANSWER 39 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1983:596623 HCAPLUS Full-text
 DOCUMENT NUMBER: 99:196623
 TITLE: Synthesis and fluorescence of
 2,3,4,4a,10a,11,12,13-octahydro-1,4a,10a,14-tetraazaviolanthrone derivatives
 AUTHOR(S): Lukac, Ivan; Langhals, Heinz
 CORPORATE SOURCE: Polymerinst., Slov. Acad. Sci., Bratislava, CS-84236, Czech.
 SOURCE: Chemische Berichte (1983), 116(10), 3524-8
 CODEN: CHBEAM; ISSN: 0009-2940
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 99:196623
 ED Entered STN: 12 May 1984
 GI

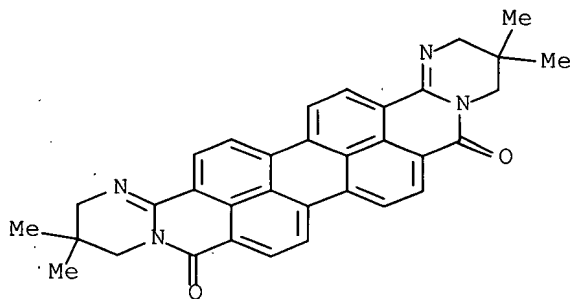


II

AB Condensing 3,4:9,10-perylenetetracarboxylic dianhydride (I) [128-69-8] with neopentanediamine [7328-91-8] gave the violanthrone derivative II [87710-93-8] with absorption and fluorescence maximum at 541 and 563 nm, resp., showing a bathochromic shift relative to those of perylene dyes. The fluorescence quantum yield is 60%. Condensing I with ethylenediamine [107-15-3] gave a fluorescent, aminated perylene dye [87710-94-9] which could be used in aqueous acidic solns.
 IT **87710-90-5P**
 (preparation of)

10/587,361

RN 87710-90-5 HCAPLUS
 CN Dipyrimido[2,1-a:2',1'-a']phenanthro[2,1,10-def:7,8,9-d'e'f']diisoquinoline-6,11-dione, 2,3,4,13,14,15-hexahydro-3,3,14,14-tetramethyl-, hydrochloride (9CI) (CA INDEX NAME)



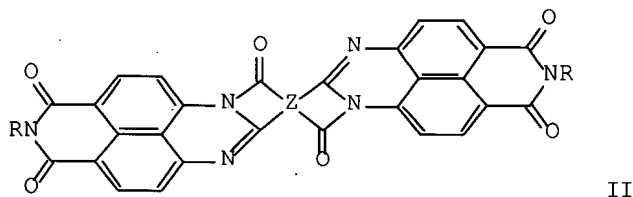
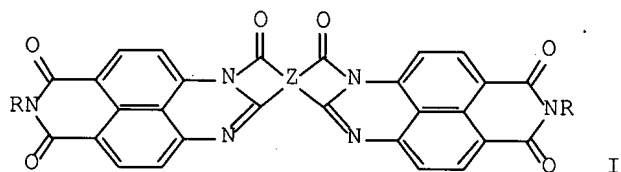
●x HCl

CC 41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
 Section cross-reference(s): 28
 IT 87710-90-5P 87710-91-6P 87710-92-7P
 (preparation of)

L26 ANSWER 40 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1977:586077 HCAPLUS Full-text
 DOCUMENT NUMBER: 87:186077
 TITLE: Pigmentary imidoperinones
 INVENTOR(S): Gangneux, Philippe Yves Edouard
 PATENT ASSIGNEE(S): Produits Chimiques Ugine Kuhlmann, Fr.
 SOURCE: U.S., 3 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4039545	A	19770802	US 1975-589222	19750623
PRIORITY APPLN. INFO.:			GB 1972-3974	A 19720207
			US 1973-330331	A1 19730207

ED Entered STN: 12 May 1984
 GI



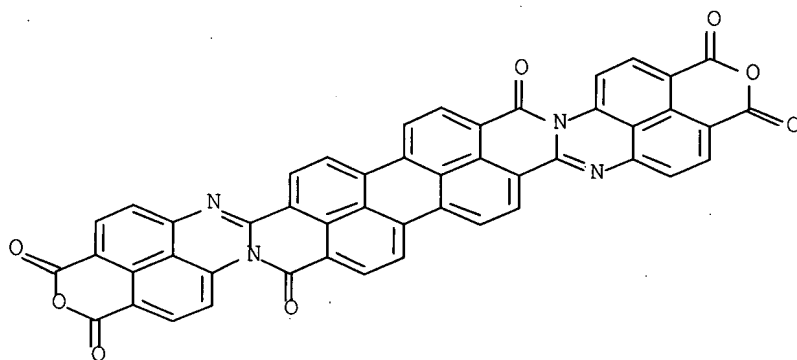
AB Mixts. of high-melting ($>400^\circ$) blue imidoperinone pigments I and II, where R = 4-H₂NC₆H₄, H₂N(CH₂)₆, or 4-HO₂CC₆H₄ and Z = 1,4,5,8-naphthalenetetrayl or 3,4,9,10-perylenetetrayl, were prepared by condensing Z(CO₂H)₄ dianhydride with 4,5-diaminonaphthalic anhydride [5589-17-3] and condensing the intermediate cis and trans mixture with RNH₂.

IT **64578-87-6P**

(preparation and reaction with phenylenediamine)

RN 64578-87-6 HCAPLUS

CN 1H,15H-Dipyrano[3,4,5-gh:3',4',5'-g'h']anthra[2'',1'',9'':4,5,6; 6'',5'',10'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-1,3,11,15,17,25-hexone (9CI) (CA INDEX NAME)



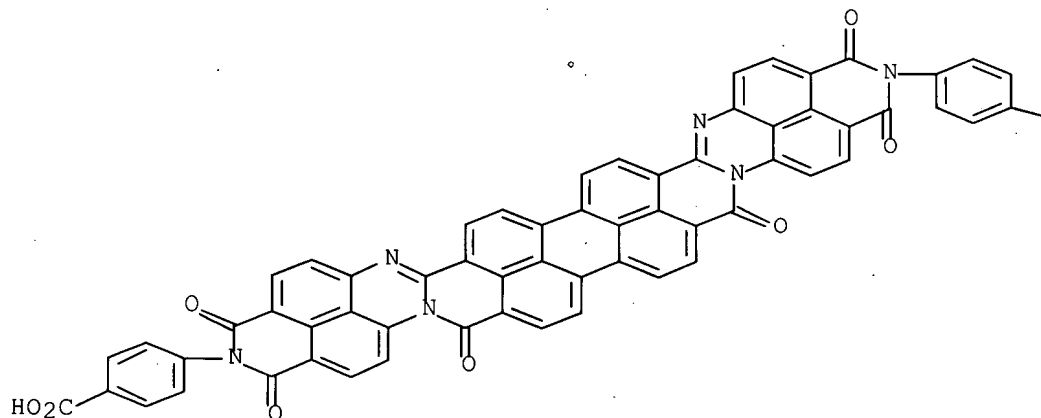
IT **50630-34-7P 51555-32-9P 51555-34-1P**
64578-88-7P

(preparation of)

RN 50630-34-7 HCAPLUS

CN Benzoic acid, 4,4'-(3,7,12,18-tetrahydro-1,3,7,12,16,18-hexaoxodipyrido[3,4,5-gh:3',4',5'-g'h']phenanthro[2'',1'',10'':4,5,6; 7'',8'',9'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-2,17(1H,16H)-diyl)bis- (9CI) (CA INDEX NAME)

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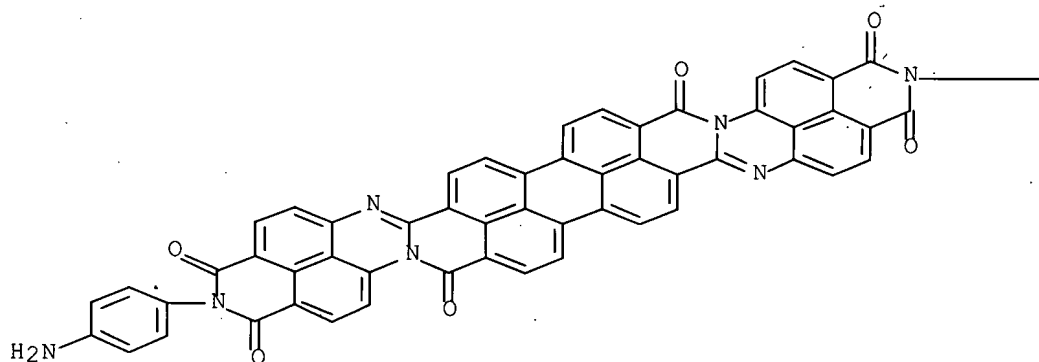


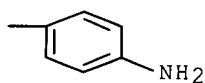
PAGE 1-B

—CO₂H

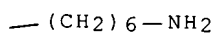
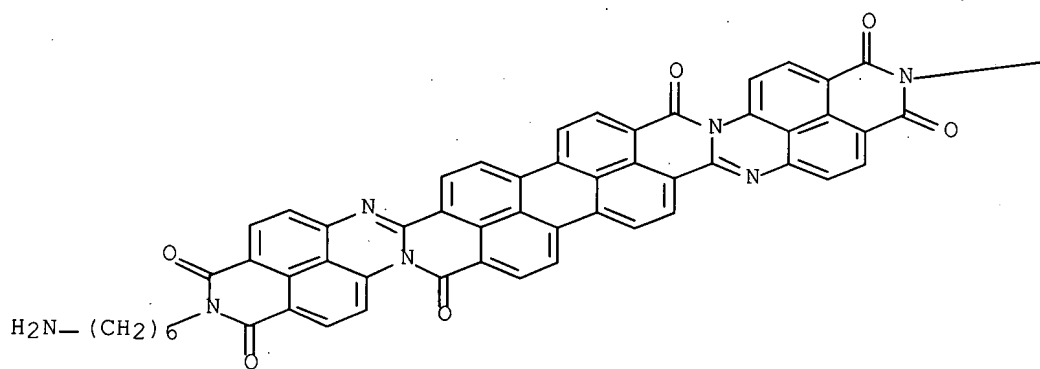
RN 51555-32-9 HCAPLUS
 CN Dipyrdo[3,4;5-gh:3',4',5'-g'h']anthra[2'',1'',9'':4,5,6;
 6'',5'',10'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-
 1,3,11,15,17,25(2H,16H)-hexone, 2,16-bis(4-aminophenyl)- (9CI) (CA
 INDEX NAME)

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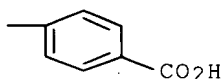
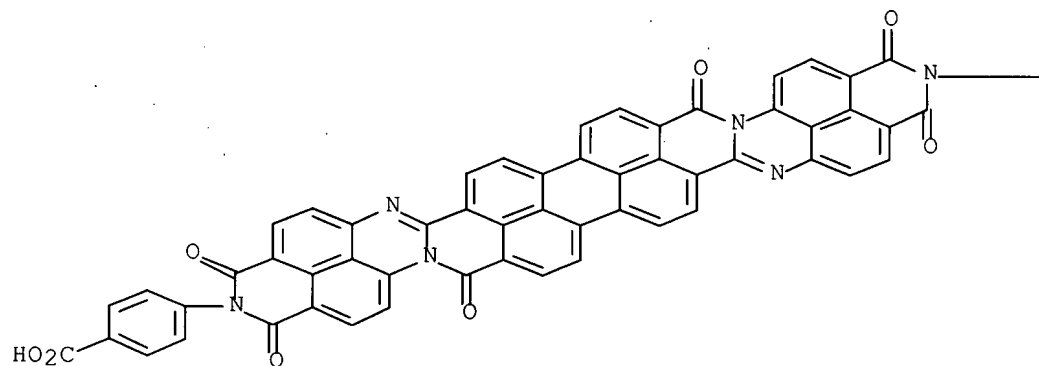




RN 51555-34-1 HCAPLUS
 CN Dipyrido[3,4,5-gh:3',4',5'-g'h']anthra[2'',1'',9'':4,5,6;
 6'',5'',10'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-
 1,3,11,15,17,25(2H,16H)-hexone, 2,16-bis(6-aminohexyl)- (9CI) (CA
 INDEX NAME)



RN 64578-88-7 HCAPLUS
 CN Benzoic acid, 4,4'-(3,11,17,25-tetrahydro-1,3,11,15,17,25-
 hexaoxodipyrido[3,4,5-gh:3',4',5'-g'h']anthra[2'',1'',9'':4,5,6;
 6'',5'',10'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-
 2,16(1H,15H)-diyl)bis- (9CI) (CA INDEX NAME)



IC C07D471-22
 INCL 260256400F
 CC 40-6 (**Dyes**, Fluorescent Whitening Agents, and
 Photosensitizers)
 IT **Pigments**
 (imidoperinones)
 IT 49546-39-6P 49546-44-3P **64578-87-6P** 64578-89-8P
 (preparation and reaction with phenylenediamine)
 IT 49546-24-9P 49546-26-1P 49861-38-3P **50630-34-7P**
51555-32-9P 51555-34-1P 64578-88-7P
 64578-90-1P
 (preparation of)

L26 ANSWER 41 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1974:579937 HCAPLUS Full-text
 DOCUMENT NUMBER: 81:179937
 TITLE: Electrophotographic panchromatic photoconductors
 INVENTOR(S): Wiedemann, Wolfgang
 PATENT ASSIGNEE(S): Kalle A.-G.
 SOURCE: Ger. Offen., 46 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2314051	A1	19741003	DE 1973-2314051	19730321
DE 2314051	B2	19770721		
NL 7403168	A	19740924	NL 1974-3168	19740308
NL 180548	B	19861001		

10/587,361

NL 180548	C	19870302		
GB 1469169	A	19770330	GB 1974-12109	19740319
FR 2222679	A1	19741018	FR 1974-9470	19740320
FR 2222679	B1	19810529		
AU 7466861	A	19750925	AU 1974-66861	19740320
US 3972717	A	19760803	US 1974-453170	19740320
JP 49128734	A	19741210	JP 1974-32441	19740322
JP 61008423	B	19860314		

PRIORITY APPLN. INFO.:

DE 1973-2314051 A 19730321

ED Entered STN: 12 May 1984

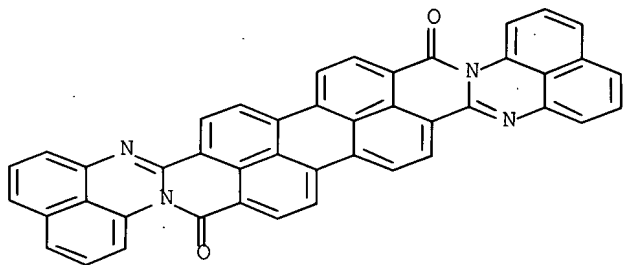
AB Electrophotog. recording materials of panchromatic (.apprx.420-750 μm) photosensitivity and low dark-discharge consisted of an elec. conductive support, optionally an insulating interlayer, and a photoconductive double layer containing purple or violet organic **dyes** of extended π -electron systems (≥ 20 π -electrons), e.g. Hostaperm Violet RL (I), as photoinjecting **pigments** in the charge-producing layer. Thus, an Al plate coated with a 0.2 μm thick polyamide interlayer was overcoated by evaporation with .apprx.1.5 g I/cm³ and hereafter with a .apprx.7-8 μm thick 1:1 2,5-bis[4-(diethylamino)phenyl]-1,3,4-oxadiazole-Dynapol L 206 layer to give an electrophotog. recording plate of neg. initial charge -470 V and half-discharge period 46 msec.

IT 6859-32-1 55034-79-2

(photoinjecting **pigment**, for electrophotog. photoconductors)

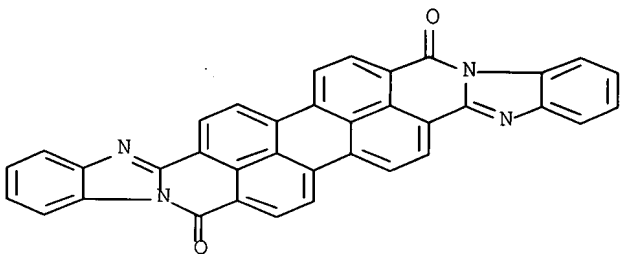
RN 6859-32-1 HCAPLUS

CN Anthra[2'',1'',9'':4,5,6;6'',5'',10'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-12,25-dione (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 55034-79-2 HCAPLUS

CN Bisbenzimidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-10,21-dione (CA INDEX NAME)



IC G03G
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST electrophotog panchromatic photoconductor; photoinjecting
 pigment panchromatic photoconductor; dioxazine deriv
 photoinjecting pigment; Hostaperm Violet
 IT Photography, electro-
 (photoinjecting dioxazine and perylene pigments for
 photoconductors for)
 IT 6859-32-1 12612-32-7 55034-79-2 55034-80-5
 55068-37-6 55177-94-1
 (photoinjecting pigment, for electrophotog.
 photoconductors)

L26 ANSWER 42 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1974:49064 HCAPLUS Full-text

DOCUMENT NUMBER: 80:49064

TITLE: Dyed polyamide fibers

INVENTOR(S): Gangneux, Philippe

PATENT ASSIGNEE(S): Uguine Kuhlmann

SOURCE: Ger. Offen., 12 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2305552	A1	19730816	DE 1973-2305552	19730205
FR 2177465	A1	19731109	FR 1972-3976	19720207
NL 7300919	A	19730809	NL 1973-919	19730123
CH 571031	A5	19751231	CH 1973-1287	19730130
BE 795038	A1	19730806	BE 1973-127314	19730206
BR 7300898	D0	19730927	BR 1973-898	19730206
JP 48089294	A	19731121	JP 1973-15120	19730206
IT 977733	B	19740920	IT 1973-67255	19730207
GB 1429732	A	19760324	GB 1973-6024	19730207
US 4002591	A	19770111	US 1973-330332	19730207
PRIORITY APPLN. INFO.:			FR 1972-3976	A 19720207

ED Entered STN: 12 May 1984

AB Colored linear polyamide fibers were prepared by incorporation of diamino pigments, e.g. N,N'-bis(4-aminophenyl)-3,4:9,10- perylenedicarboximide (I), into the polyamide by polycondensation with the other monomers. Thus, 49.95 parts hexamethylenediamine adipate and 0.05 parts equimolar I-adipic acid mixture under N were heated 1 hr at 100.deg. and 2.5 hr at 280.deg., under N, to give a adipic acid-N,N'-bis(4-aminophenyl)-3,4:9,10-perylenedicarboximide-hexamethylenediamine copolymer [43175-90-2] containing no extractable dye and giving red fibers.

IT 51555-33-0 51635-25-7 51730-41-7

(fiber, colored)

RN 51555-33-0 HCAPLUS

CN Hexanedioic acid, polymer with 2,16-bis(4-aminophenyl)dipyrido[3,4,5-gh:3',4',5'-g'h']anthra[2'',1'',9'':4,5,6; 6'',5'',10'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-1,3,11,15,17,25(2H,16H)-hexone, 2,17-bis(4-aminophenyl)dipyrido[3,4,5-gh:3',4',5'-g'h']phenanthro[2'',1'',10'':4,5,6; 7'',8'',9'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-

10/587,361

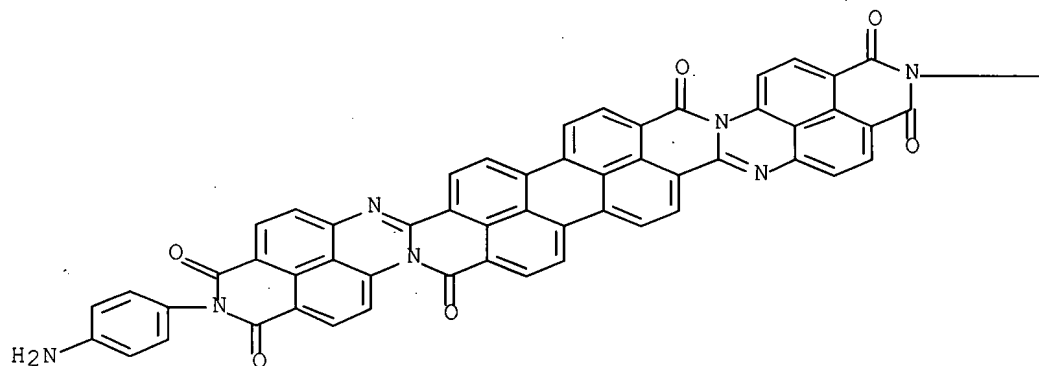
1,3,7,12,16,18(2H,17H)-hexone, hexahydro-2H-azepin-2-one and
1,6-hexanediamine (9CI) (CA INDEX NAME)

CM 1

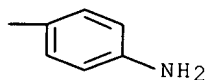
CRN 51555-32-9

CMF C60 H28 N8 O6

PAGE 1-A



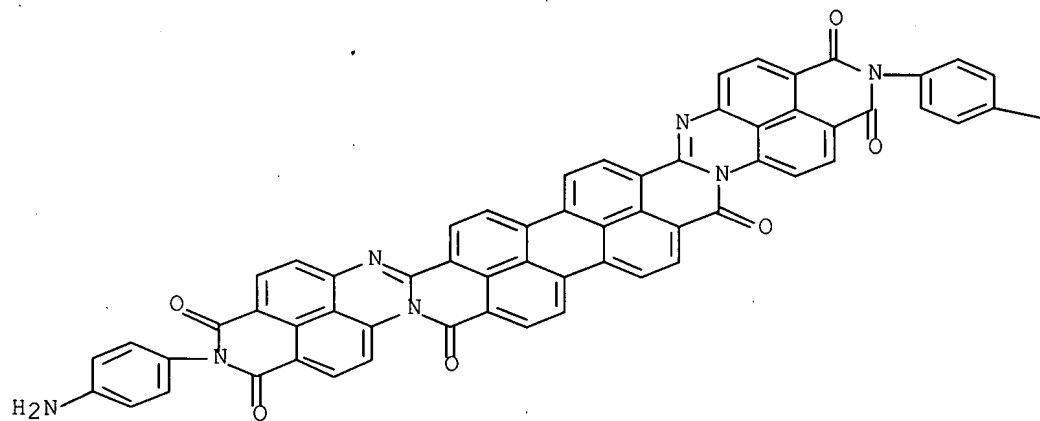
PAGE 1-B



CM 2

CRN 49546-26-1

CMF C60 H28 N8 O6



—NH₂

CM 3

CRN 124-09-4

CMF C6 H16 N2

H₂N—(CH₂)₆—NH₂

CM 4

CRN 124-04-9

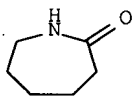
CMF C6 H10 O4

HO₂C—(CH₂)₄—CO₂H

CM 5

10/587,361

CRN 105-60-2
CMF C6 H11 N O

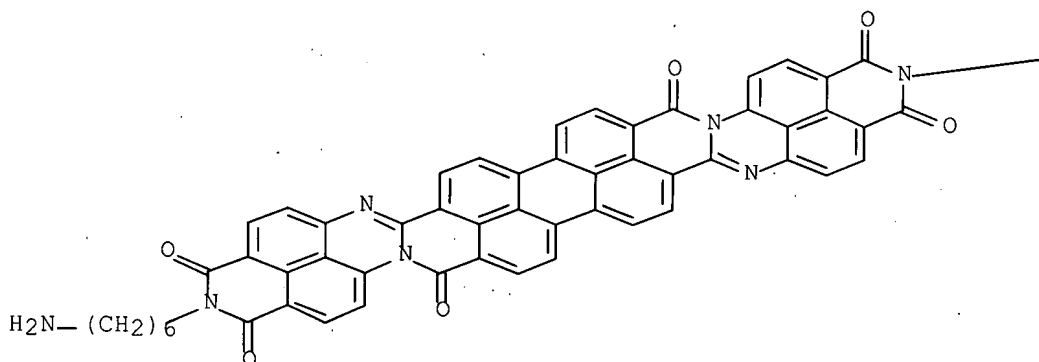


RN 51635-25-7 HCAPLUS
CN Decanedioic acid, polymer with 2,16-bis(6-aminohexyl)dipyrido[3,4,5-gh:3',4',5'-g'h']anthra[2'',1'',9'':4,5,6;6'',5'',10'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-1,3,11,15,17,25(2H,16H)-hexone, 2,17-bis(6-aminohexyl)dipyrido[3,4,5-gh:3',4',5'-g'h']phenanthro[2'',1'',10'':4,5,6;7'',8'',9'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-1,3,7,12,16,18(2H,17H)-hexone and 1,6-hexanediamine decanedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 51555-34-1
CMF C60 H44 N8 O6

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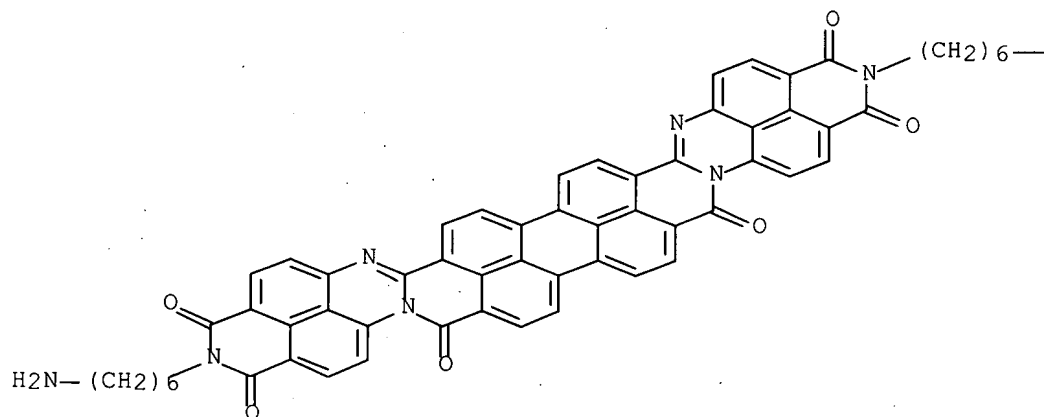
PAGE 1-B

—(CH₂)₆—NH₂

CM 2

CRN 49861-38-3
CMF C60 H44 N8 O6

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PAGE 1-B

—NH₂

CM 3

CRN 111-20-6
 CMF C10 H18 O4

HO₂C—(CH₂)₈—CO₂H

CM 4

CRN 6422-99-7
 CMF C10 H18 O4 . C6 H16 N2

CM 5

CRN 124-09-4
 CMF C6 H16 N2

H₂N—(CH₂)₆—NH₂

CM 6

10/587,361

CRN 111-20-6
CMF C10 H18 O4

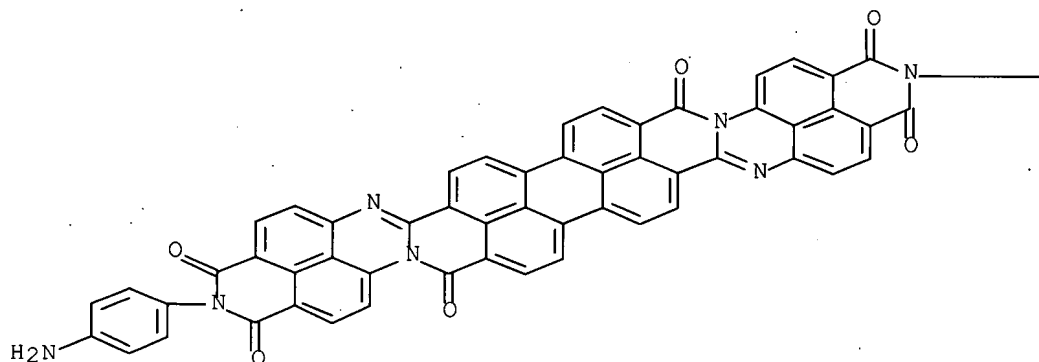
HO₂C—(CH₂)₈—CO₂H

RN 51730-41-7 HCAPLUS
CN Undecanoic acid, 11-amino-, polymer with 2,16-bis(4-aminophenyl)dipyrido[3,4,5-gh:3',4',5'-g'h']anthra[2'',1'',9'':4,5,6;6'',5'',10'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-1,3,11,15,17,25(2H,16H)-hexone and 2,17-bis(4-aminophenyl)dipyrido[3,4,5-gh:3',4',5'-g'h']phenanthro[2'',1'',10'':4,5,6;7'',8'',9'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-1,3,7,12,16,18(2H,17H)-hexone (9CI) (CA INDEX NAME)

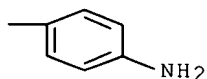
CM 1

CRN 51555-32-9
CMF C60 H28 N8 O6

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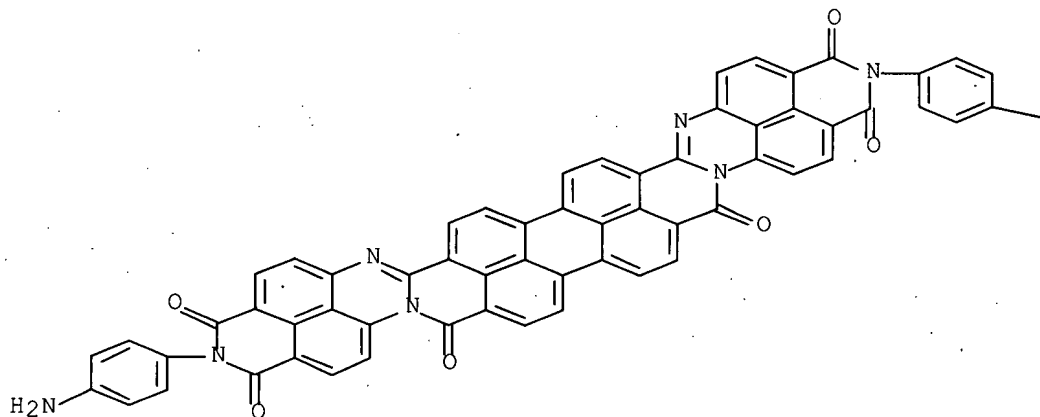


PAGE 1-B



CM 2

CRN 49546-26-1
CMF C60 H28 N8 O6

—NH₂

CM 3

CRN 2432-99-7

CMF C11 H23 N O2

HO₂C—(CH₂)₁₀—NH₂

IC C08G
 CC 39-2 (Textiles)
 ST nylon colored perylene **dye**; polyamide perylene **dye**
 contg; fiber polyamide colored
 IT Polyamide fibers
 (peryene **dye**-containing, colored)
 IT 51547-63-8 51555-33-0 51555-35-2 51635-24-6
 51635-25-7 51730-41-7
 (fiber, colored)

L26 ANSWER 43 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1974:5010 HCAPLUS Full-text
 DOCUMENT NUMBER: 80:5010
 TITLE: Perinone pigments
 INVENTOR(S): Gangneux, Philippe

PATENT ASSIGNEE(S): Ugine Kuhlmann
 SOURCE: Ger. Offen., 10 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2305549	A1	19730816	DE 1973-2305549	19730205
FR 2171570	A5	19730921	FR 1972-3974	19720207
IT 988375	B	19750410	IT 1972-71242	19721229
NL 7300922	A	19730809	NL 1973-922	19730123
CH 563435	A5	19750630	CH 1973-1284	19730130
BE 795036	A1	19730806	BE 1973-127312	19730206
BR 7300897	D0	19731218	BR 1973-897	19730206
JP 49092107	A	19740903	JP 1973-15118	19730206
GB 1425502	A	19760218	GB 1973-6022	19730207
PRIORITY APPLN. INFO.:			FR 1972-3974	A 19720207

ED Entered STN: 12 May 1984

AB Mixts. of the imidoperinone pigments I and II [Q = 3,4,9,10-perylenetetrayl or 1,4,5,8-naphthalenetetrayl; R = 4-H₂NC₆H₄ or 4-HO₂CC₆H₄, or H₂N(CH₂)₆], useful in lacquers, polymers, and fibers, were prepared. Thus, successive reaction of 3,4:6,10-perylenetetracarboxylic dianhydride with 4,5-diamino-1,8-naphthalenedicarboxylic anhydride and with p-(H₂N)₂C₆H₄ each 15 hr at 220.deg. in quinoline in the presence of ZnCl₂ gave a dark blue mixture of the perionone pigment (I, Q = 3,4,9,10-perylenetetrayl, R = 4-H₂NC₆H₄) [49556-64-1] and its corresponding trans isomer II. Three other I-II pigment mixts. were similarly prepared

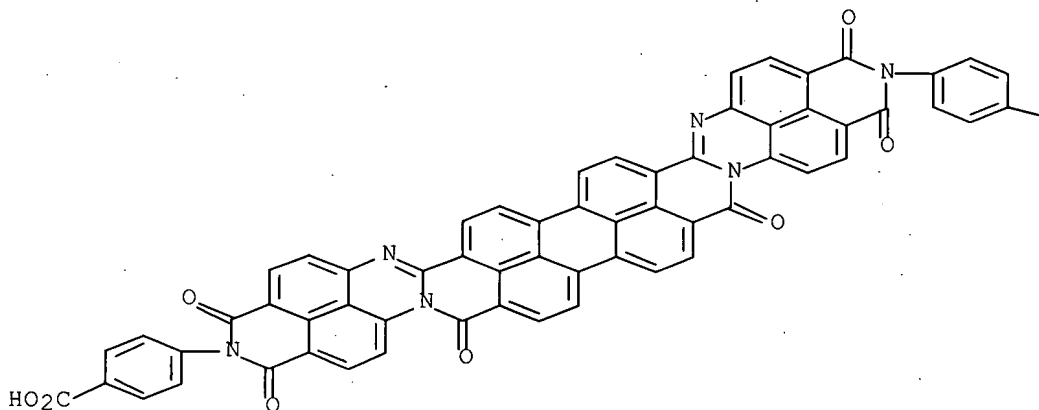
IT 50630-34-7P

(preparation of)

RN 50630-34-7 HCAPLUS

CN Benzoic acid, 4,4'-(3,7,12,18-tetrahydro-1,3,7,12,16,18-hexaoxodipyrido[3,4,5-gh:3',4',5'-g'h']phenanthro[2'',1'',10'':4,5,6; 7'',8'',9'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-2,17(1H,16H)-diyl)bis- (9CI) (CA INDEX NAME)

PAGE 1-A



—CO₂H

IC C09B
 CC 42-5 (Coatings, Inks, and Related Products)
 IT 49546-24-9P 49546-26-1P 49861-38-3P **50630-34-7P**
 (preparation of)

L26 ANSWER 44 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1973:137954 HCAPLUS Full-text
 DOCUMENT NUMBER: 78:137954
 TITLE: Dark blue **dyes** based on compounds
 containing two imidazole rings
 INVENTOR(S): Maehara, Kiyoshi
 PATENT ASSIGNEE(S): Japan Chemical Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 47034424	B4	19721121	JP 1971-17270	19710326
JP 50033085		19750331	JP 1974-61754	19740531

ED Entered STN: 12 May 1984

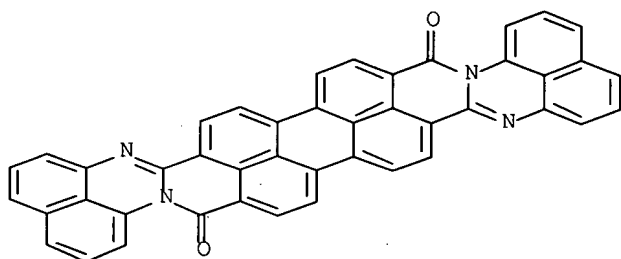
AB 1,8-Diaminonaphthalene (I) was condensed with an aromatic tetracarboxylic acid (or its anhydride), e.g. pyromellitic dianhydride (II) to give vat **dye** (III-IV mixture) for plastics. For example, I and II were condensed in o-C₆H₄Cl₂ in the presence of piperidine to give III-IV mixture, blue in H₂SO₄ and reddish violet on PVC. Other acids used were 1,4,5,8-C₁₀H₄(CO₂H)₄ and 3,4,9,10-perylenetetracarboxylic acid.

IT **6859-32-1P**

(preparation of)

RN 6859-32-1 HCAPLUS

CN Anthra[2'',1'',9'':4,5,6;6'',5'',10'':4',5',6']diisoquino[2,1-a:2',1'-a']diperimidine-12,25-dione (7CI, 8CI, 9CI) (CA INDEX NAME)



INCL 23A0

CC 40-6 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

ST naphthimidazole vat **dye** plastic; pyromelletic anhydride vat **dye**; naphthalenetetracarboxylic acid vat **dye**; perylenetetracarboxylic acid vat **dye**; imidazole naphtho pigment; perinone pigment; perylene pigment

IT Plastics

(dyes for, polycyclic pyrimidine derivs. as)

IT **Dyes**

(polycyclic pyrimidine derivs. from tetracarboxylic acids and naphthalenediamines)

IT 1109-71-3P 4578-87-4P **6859-32-1P** 20749-67-1P

41602-63-5P 41635-87-4P

(preparation of)

L26 ANSWER 45 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1967:105893 HCAPLUS Full-text

DOCUMENT NUMBER: 66:105893

ORIGINAL REFERENCE NO.: 66:19839a,19842a

TITLE: Vat **dyes**

INVENTOR(S): Braun, Willy; Anton, Ernst

PATENT ASSIGNEE(S): Badische Anilin- & Soda-Fabrik AG

SOURCE: Brit., 6 pp.

CODEN: BRXXAA

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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GB 1056299		19670125	GB 1964-18956	19640507

ED Entered STN: 12 May 1984

AB Vat **dyes** and **pigments** are prepared by condensing perylene-3,4,9,10-tetracarboxylic acid (I) or anhydride (II) with arylamines in the presence of Zn(OAc)₂ or Zn(OBz)₂. The use of the Zn carboxylates gives purer products at lower temperature and shorter reaction time from weakly basic amines than can be obtained with ZnCl₂. Thus, a mixture of II 9.8, 4-H₂NC₆H₄N:NPh 12.5, and Zn(OAc)₂.2H₂O 4-6 parts in 130 parts quinoline is stirred for 1 hr. at 230-5° under N or air. The blunt red crystals are filtered, washed with quinoline, MeOH, and H₂O, and boiled in dilute NaOH to give perylene-3,4,9,10-tetracarboxylicbis(4-phenylazo)phenylimide in excellent yield and high purity. Similar results are obtained using I or II and mixts. of ZnO and HOAc or BzOH. Similarly other **dyes** are prepared from II using Zn(OAc)₂ (arylamine, appearance of product, color in concentrated H₂SO₄, color of vat, and shade on cotton given): 2- MeC₆H₄N:NC₆H₃(Me)NH₂-3,4 red crystals, red with blue fluorescence, -, yellowish red; 4-ClC₆H₄N:NC₆H₄(Me)NH₂-2,4, red needles, blue-red, violet, -; 1,4-H₂NC₁₀H₆N:NPh, red, blue-red with blue fluorescence, violet, bluish red; 1-aminoanthraquinone; red lamellae, blue-red, violet, rose red; 2 aminoanthraquinone, blue red crystals, red, blue-red, bluish red; 1,4-diamino-2-acetylanthraquinone, dark blue red crystals, blue red, violet, claret; 1,2-diaminoanthraquinone, dark violet, blue green, violet, violet; 2-aminopyrimidine, red lamellae, blue red, violet, rose.

IT **6600-48-2P**

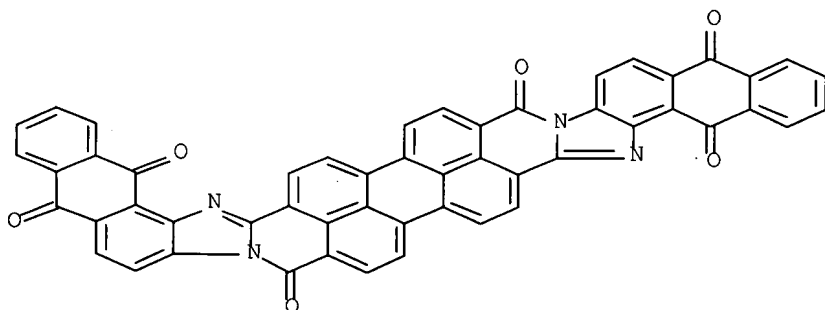
(preparation of)

RN 6600-48-2 HCAPLUS

CN Bisanthra[1',2':4,5]imidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-

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d'e'f']diisoquinoline-5,11,15,20,26,30-hexone (7CI, 8CI, 9CI) (CA INDEX NAME)



IC C09B
CC 40 (Dyes, Fluorescent Brightening Agents, and Photosensitizers)
IT **Dyes**
(3,4,9,10-perylenetetracarboxylic 3,4:9,10-diimide (derivs.))
IT 3049-71-6P 3533-56-0P 3533-58-2P 3591-69-3P 3843-03-6P
3874-80-4P 3881-91-2P **6600-48-2P**
(preparation of)

L26 ANSWER 46 OF 46 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1967:86608 HCAPLUS Full-text

DOCUMENT NUMBER: 66:86608

ORIGINAL REFERENCE NO.: 66:16251a

TITLE: Perlcarboximide **dyes**

INVENTOR(S): Braun, Willy; Anton, Ernst

PATENT ASSIGNEE(S): Badische Anilin- & Soda-Fabrik AG

SOURCE: Ger., 4 pp.

CODEN: GWXXAW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1230946		19661222	DE 1962-B69559	19621109

ED Entered STN: 12 May 1984

GI For diagram(s), see printed CA Issue.

AB The title compds., useful as **pigment** and vat **dyes**, were prepared by condensing perylene-3,4,9,10-tetracarboxylic acid or its anhydride (I) with amines in organic solvents in the presence of Zn salts of organic carboxylic acid. Thus, a mixture of I 9.8, 4-H₂NC₆H₄N:NPh 12.5, crystalline Zn(OAc)₂ 4.6, and quinoline 130 parts was heated at 230-5° for 1 hr. while passing in air or N, the precipitate filtered at 100° washed with quinoline, MeOH, and H₂O, and boiled with diluted NaOH to give very pure II (R = 4-PhN:NC₆H₄) in high yield. Similarly, the following II were prepared (R, appearance, color in concentrated H₂SO₄ and color of vat given): 2,4-Me(2-MeC₆H₄N:N)C₆H₃, red crystals, red (blue fluorescence), violet; 3,4-Me(4-ClC₆H₄N:N)C₆H₃, red needles, blue-red, violet; 1,4-Cl₂H₆N:NPh, red crystals, blue-red (blue fluorescence), violet; 1-anthraquinonyl, -, blue-red (blue fluorescence), violet; 3-acetyl-4-amino-1-anthraquinonyl, dark blue-red crystals, blue-violet, violet; 2-pyrimidyl, dark blue-red crystals, blue-red, violet. Also

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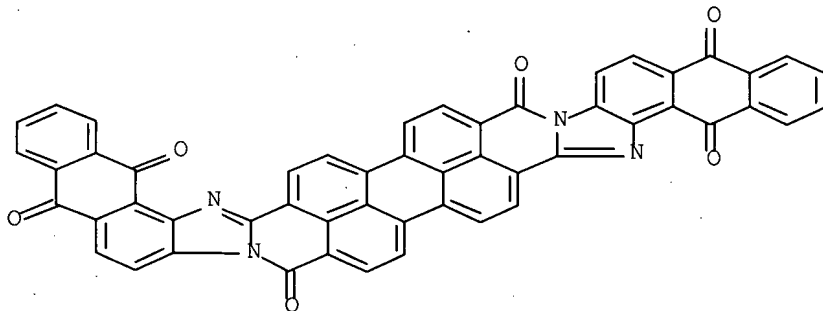
prepared was the bis-imidazole derivative from I and 1,2-diaminoanthraquinone, blue-green in concentrated H₂SO₄, violet on cotton from a violet vat.

IT 6600-48-2P

(preparation of)

RN 6600-48-2 HCAPLUS

CN Bisanthra[1',2':4,5]imidazo[2,1-a:2',1'-a']anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-5,11,15,20,26,30-hexone (7CI, 8CI, 9CI) (CA INDEX NAME)



IC C09B

CC 40 (Dyes, Fluorescent Brightening Agents, and Photosensitizers)

ST VAT DYE

IT Pigments

(3,4,9,10-perylenetetracarboxylic 3,4:9,10-diimide derivs. as)

IT Dyes

(vat, 3,4,9,10-perylenetetracarboxylic 3,4:9,10-diimide derivs.)

IT 3049-71-6P 3533-56-0P 3533-57-1P 3533-58-2P 3591-69-3P

3843-03-6P 3874-80-4P 3881-91-2P 6600-48-2P

(preparation of)

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SEL RN

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6859-32-1/BI OR 9002-88-4/BI OR 9003-07-0/BI OR 9003-56-9/B
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L8 4 SEA ABB=ON PLU=ON L7 AND L2
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L9 STR L5
L10 STR L9
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SAV L12 GRE361A/A
SAV L13 GRE361B/A

FILE 'HCAPLUS' ENTERED AT 15:08:58 ON 10 OCT 2007

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L18 73 SEA ABB=ON PLU=ON L15 AND DYE?
L19 60 SEA ABB=ON PLU=ON L15 AND DYE?/SC, SX
E PIGMENTS/CT
E E3+ALL
L20 72445 SEA ABB=ON PLU=ON (PIGMENTS+PFT,NT/CT OR "PIGMENTS,
NONBIOLOGICAL"+PFT,NT/CT)
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L22 25 SEA ABB=ON PLU=ON L16 OR L21

10/587,361

L23 30 SEA ABB=ON PLU=ON L15 AND L20
L24 128 SEA ABB=ON PLU=ON L15 AND (L20 OR PIGMENT?)
L25 18 SEA ABB=ON PLU=ON L24 AND DYE?
L26 46 SEA ABB=ON PLU=ON L22 OR L23 OR L25
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